

LTV

A Subsidiary of

LING-TEMCO-VOUGHT, INC.

INSTRUCTION MANUAL
TYPE MRIC
AM MONITOR RECEIVER



Continental Electronics
M A N U F A C T U R I N G C O M P A N Y

4212 South Buckner Boulevard • Dallas 27, Texas • Evergreen 1-7161

INSTRUCTION MANUAL
TYPE MRIC
AM MONITOR RECEIVER



W A R N I N G

The voltages employed in this equipment are sufficiently high to endanger human life. Use extreme care when operating and servicing the system.

CONTENTS

	<u>Page</u>
1. Introduction	1-1
2. Illustrations	
A. Front View	2-1
B. Top View	2-2
C. Rear View	2-3
D. Bottom View	2-4
3. Specifications	3-1
4. Circuit Description	4-1
5. Installation	5-1
6. Adjustment and Operation	6-1
7. Alignment	7-1
8. Charts and Graphs	-
A. Tube Voltage Chart	8-1
B. AGC and Cathode Voltage Vs Gain Setting	8-2
C. Antenna Padder Graph (C66)	8-3
D. Tuned Circuit Padder Graph (C61-65)	8-4
E. Output Network Tuning Graph (C26)	8-5
F. Output Network Tuning Graph (C27)	8-6
9. Electrical Parts List #30365	9-1
10. Wiring List #35049	10-1
11. Drawings	
A. Schematic, 31300-E	
B. Assembly, D-31301	

Introduction

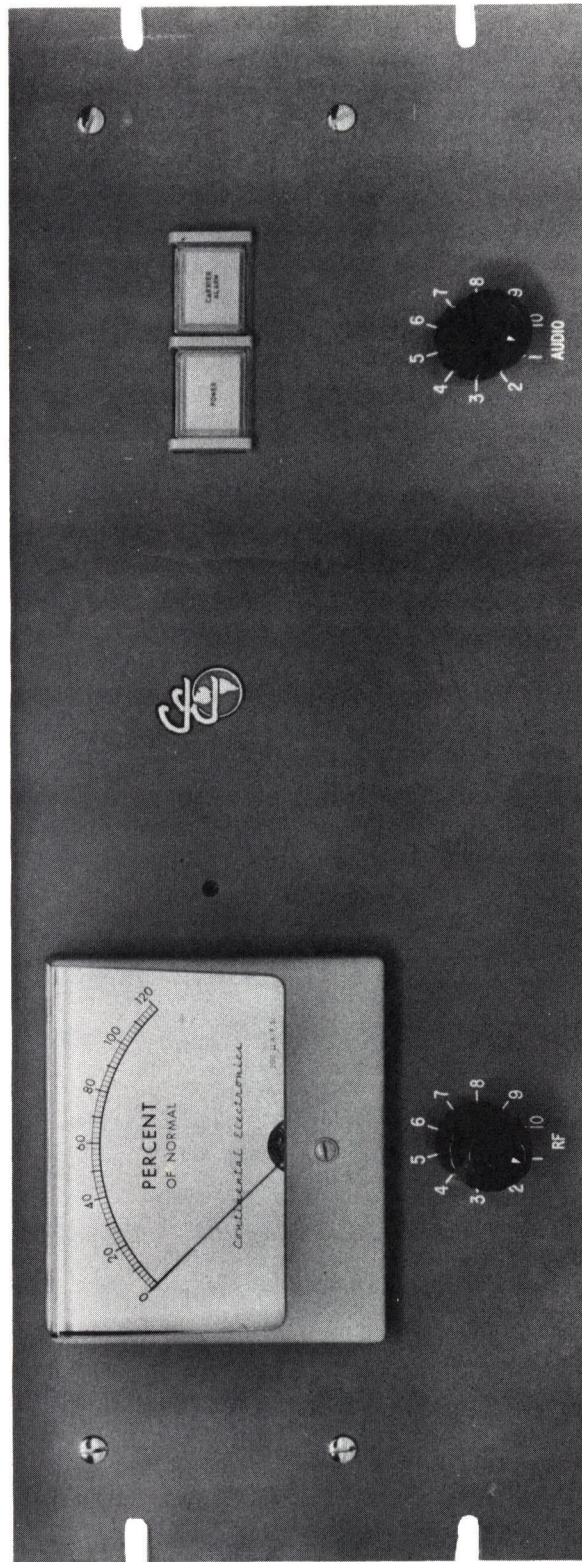
The Type MR1C AM Monitor Receiver is a high-quality, fixed-tuned TRF unit, used for monitoring unattended transmitter operation at the studio location. Off-the-air signals are picked up by a shielded loop antenna, amplified by the receiver, and fed to the station's modulation and frequency monitors, which are also located at the studio.

The unit incorporates a front panel meter which may be used to indicate relative field intensity at the pickup point. This indication, along with the normal indication of Antenna Current on the Remote Control System meter, provides a second check of transmitter power output.

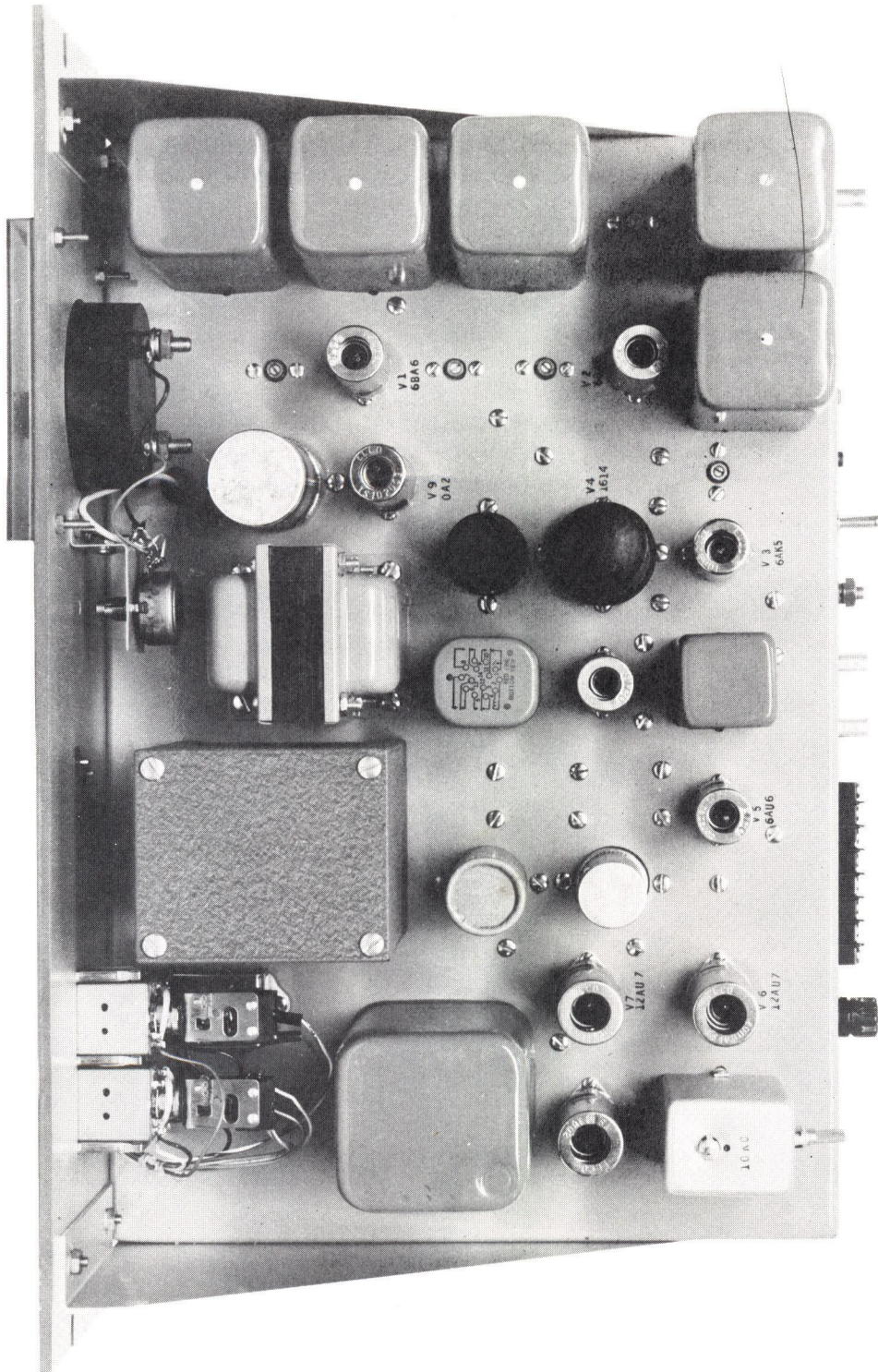
In addition, the receiver provides an audio monitoring channel which has a 600 ohm output which is essentially flat to beyond 10 kc. A carrier pilot lamp and buzzer arrangement provides an indication of the presence of carrier, and alarm on loss of carrier.

The shielded loop antenna, which is recommended for use with each receiver, aids in the rejection of local noise interference, and through directivity helps to eliminate adjacent channel interference where present. In addition, signal level variations due to selective fading from vertical incidence reflections from the "E" layer, are largely eliminated. The antenna and receiver are connected via coaxial cable, at low impedance.

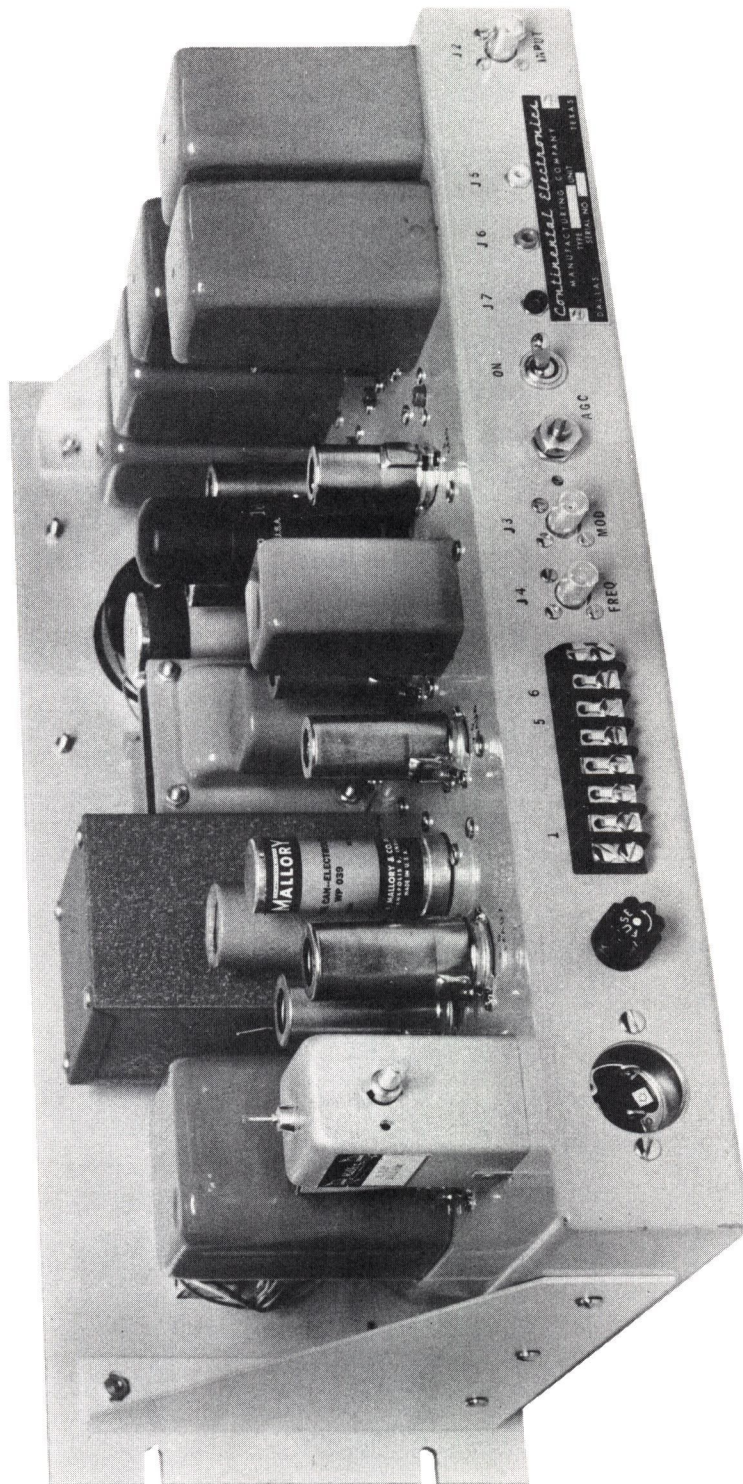
The MR1C has sufficient output to drive all modern monitors, and may be successfully used with nearly all monitoring equipment to be found in station use. When used with modulation monitors having high-impedance inputs, the use of the Type 5653-A High Impedance Coupler is required.



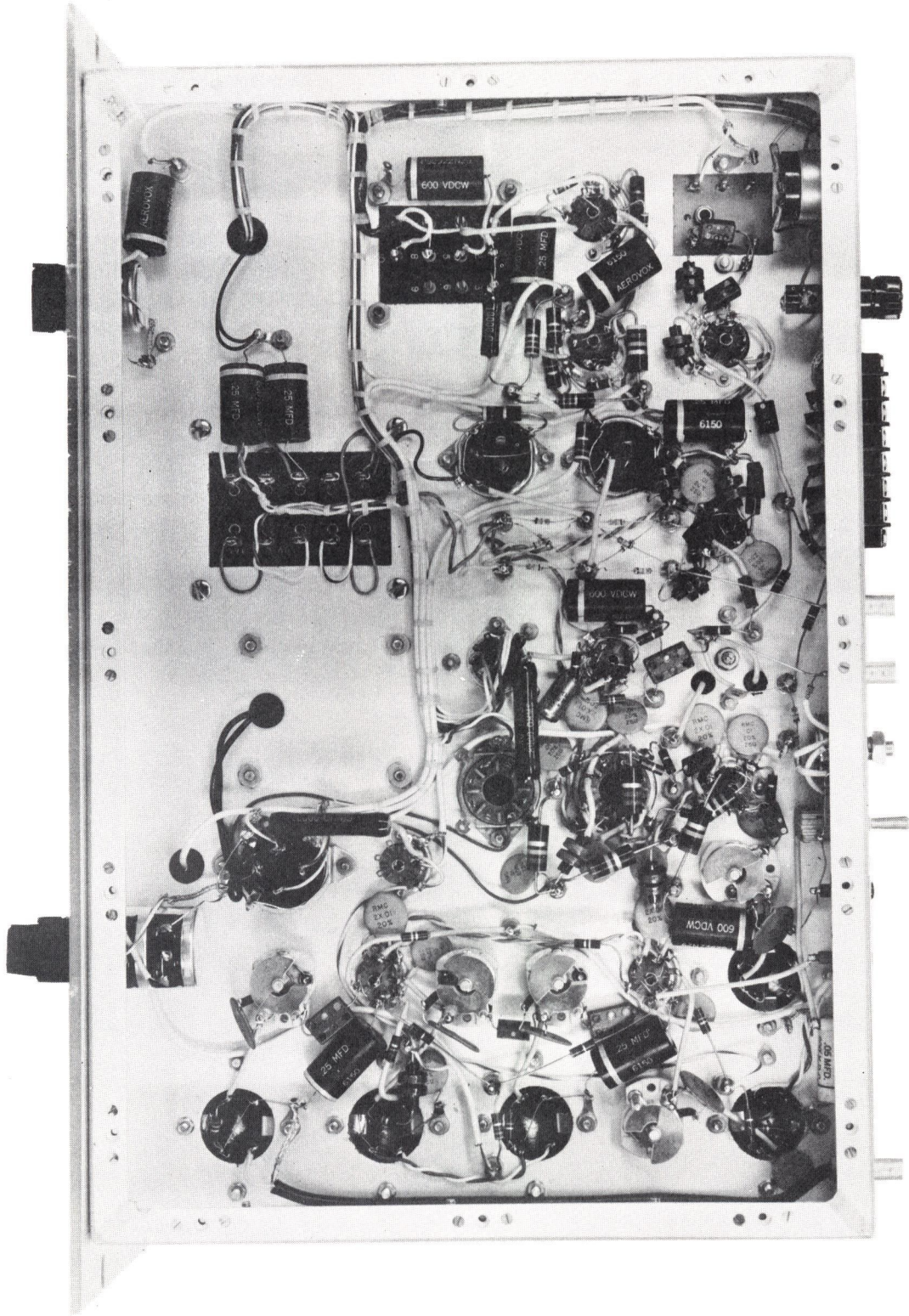
FRONT VIEW



TOP VIEW



REAR VIEW



BOTTOM VIEW

Specifications1. Frequency Range:

0.54 to 1.7 mc

2. Input Impedance:

50 ohms, unbalanced

3. Input Sensitivity, at Maximum Gain, with Standard Loop Antenna:

20 MV/meter. (5 MV/ meter on special order)

4. Output:

a. Modulation Monitor: 6 volts RMS across 75 ohm unbalanced load. (Type 5653-A High Impedance Coupler used with high impedance monitors).

b. Frequency Monitor: 1 volt minimum, high impedance unbalanced, from special clipping amplifier.

c. Audio: 600 ohms, balanced; essentially flat to 10 kc. Maximum output level ± 20 dbm at 100% modulation, at rated modulation monitor output.

5. Meter:

Indicates relative input signal strength in "Percent of Normal."

6. Carrier Alarm:

Buzzer and lamp alarm on loss of carrier. Provision made for external lamp and buzzer.

7. Tube Complement:

1 - OA2, 1 - 2D21, 1 - 6AK5, 1 - 6AU6, 2 - 6BA6, 3 - 12AU7, 1-1614.

8. Power Input: 115 volts, $\pm 5\%$, 50/60 cycles, 95 watts.9. Size: 7" x 19" standard rack mounting, 11-1/2" deep.

Circuit Description

The monitor receiver is normally driven by a Type D-31307 loop antenna, which is contained in a weatherproof housing for installation outdoors, generally on the building roof at the receiving station. The antenna is shielded to minimize noise interference pickup, and because of its directional characteristic, may be aligned with the transmitter location, thereby rejecting unwanted signals from other directions. A tuned circuit in the antenna base is adjusted to the operating frequency, and serves as an impedance transformation to the 50 ohm lead-in cable. Alternately, if noise and interference rejection is not a problem, a long-wire antenna may be used directly with the receiver.

The MR1C receiver is a high-quality TRF unit, providing an amplified RF signal to the station modulation monitor, at the normal input frequency. The input amplifier consists of two double-tuned 6BA6 tubes, V1 and V2, connected via a tuned-plate, tuned-grid circuit. A common cathode potentiometer arrangement is used to vary the gain in these stages. Additionally, controlled grid bias is provided through an AGC circuit, for increased gain stability.

The input amplifier is followed by untuned driver and power amplifier stages using 6AK5 and 1614 tubes, respectively. The 1614 amplifier output is transformed to low impedance, to drive the modulation monitor, via a pi-network coupling circuit.

Frequency Monitor amplifier V5 derives a small voltage from the modulation monitor output, and through grid and plate diode clipping circuits, produces a clipped output sample of the transmitting frequency at output jack J4. The output is in excess of one volt, and is a high impedance connection.

A linear detector, V6, is followed by a conventional audio amplifier, employing two 12AU7s. The first, V7, is a direct-coupled amplifier stage with phase inverter output. The second tube, V8, is a push-pull amplifier, connected directly to the output transformer. Audio output impedance is 600 ohms, balanced.

A sample of the receiver RF output voltage is rectified and fed to the front panel meter, which is calibrated in "Percent of Normal". Potentiometer R35, a front-panel screwdriver adjustment, is used to calibrate the meter to 100%, once the proper receiver output level has been established. After calibration, the meter indication is roughly proportional to relative field strength, and will serve as an additional check on transmitter power output level.

The carrier alarm amplifier, V10, is a grid-controlled 2D 21 thyatron. Unrectified AC voltage feeds the plate circuit, so that the tube, if in the conducting condition, is automatically reset on each negative AC half-cycle. Without grid voltage, the thyatron conducts on each positive half-cycle of plate voltage, thereby energizing plate alarm relay S1. A sample of the receiver output voltage is rectified and applied as a negative bias to the thyatron grid, thereby cutting off the tube under carrier-on conditions. Subsequent loss of carrier for any reason will fire the thyatron and energize the alarm relay. The grid circuit RC time constant is such that the tube will not alarm on negative modulation peaks.

Carrier alarm lamp E2 is illuminated green in the normal carrier-on condition, and upon loss of carrier is illuminated red. Separate relay contacts energize an alarm buzzer on carrier loss, which may be silenced by alarm switch D2. D2 is connected in three-way switch fashion with the relay contacts, and this arrangement allows subsequent buzzer action on carrier restoration, until the switch is returned to its original position.

Installation

1. Mount receiver in standard 19" equipment rack at the studio location. Connect to 115 V AC, 60 cps, by means of the line cord provided.
2. Attach ground connection to TS1-3.
3. Connect audio monitoring equipment to 600 ohm audio output terminals TS1-1 and 2.
4. If desired, connect external alarm lamps to terminals TS1-4 and -5, and external bell or buzzer to TS1-6.
5. Connect frequency and modulation monitors to their respective receiver output jacks.

NOTE: If receiver is used initially for audio monitoring and/or carrier alarm indication only, load modulation monitor output with 75 ohm resistor.

6. If the Type D -31307 Loop Antenna is used, mount in a favorable location above the studio building on a standard 1-1/2" O. D. pipe mast, after passing coaxial cable through mast. Connect other end of cable to receiver antenna input jack. Make approximate alignment with transmitter site by orienting circular loop to be in line with direction to transmitter. Provide a direct, external ground connection to body of loop antenna.

Adjustment and Operation

NOTE: In the following procedure, the receiver is assumed to be used with the General Radio Type 1931B (or 1931A) Modulation Monitor, and the adjustment procedures are described for that instrument. However, most modern monitors operate in a similar manner, and the adjustment method will, in general, be correct for them also.

1. Place POWER switch in ON position and allow receiver, as well as monitoring equipment, to warm up for at least 15 minutes.
2. Place AGC switch D3 in the OFF position.
3. Set Modulation Monitor CARRIER control to the approximate mid-point position.
4. Adjust receiver RF GAIN to obtain a reading on the monitor CARRIER meter of between 10 and 30. (It may be necessary to make a preliminary orientation of the loop antenna at this time.) Note that the receiver RF GAIN control consists of "coarse" and "fine" adjusting knobs. During the preliminary adjustments, the "fine" adjustment should be set to mid-range.
5. Adjust monitor TUNE FOR MAX control for maximum CARRIER meter indication.
6. Set monitor CARRIER control to the maximum clockwise position.
7. Rotate loop antenna for maximum received signal strength as indicated on the receiver carrier level meter, or on the monitor CARRIER meter.
8. Adjust receiver RF GAIN control for full-scale (200) indication on the monitor CARRIER meter.
9. Place AGC switch in ON position.
10. Adjust AGC control R33 to reduce monitor CARRIER meter indication to 150.
11. Reduce the monitor CARRIER meter indication to 100, using the monitor CARRIER control.

12. Set the receiver carrier level meter at 100%, using control R35, located beside the meter.

NOTE: The MRIC receiver is a monitoring device and is not intended as an instrument by which absolute transmitter measurements may be made. For this reason, the carrier level meter employs a relatively simple circuit and is useful in obtaining a check of transmitter operating condition. No attempt should be made to use the receiver for accurate measurement of transmitter carrier shift, or other characteristics.

13. Check to see that the carrier alarm functions properly. This may be accomplished by momentarily disconnecting the antenna cable. The carrier alarm normally sounds at a carrier level of about 30%, depending upon level setting described above.
14. Make fine adjustment of the monitor CARRIER control for exact 100% indication.
15. Adjust AUDIO GAIN control for proper output level into the audio monitoring equipment.

Adjustment of the receiver is now complete.

As an aid toward evaluation of receiver performance, the bias voltages at test jacks J5 (blue) and J6 (red) with respect to ground jack J7 (black) should be measured at this time. These measurements normally vary with the RF GAIN control setting, but should be approximately as shown in Graph B on page 8-2. Future measurements at these points will be indicative of receiver gain stability. These voltages should be made under normal received signal conditions, with controls set as described above, and AGC ON. Note that although the observed voltages should be approximately as shown in the graph, minor differences should be discounted, since the chief value of the measurement is to detect changes in the operation of the unit, throughout its life.

Alignment

Both the receiver and the tuned loop antenna (if supplied) have been aligned to the customer's frequency at the factory. Although re-alignment in the field is acceptable in case of trouble or parts replacement, it is suggested that initial installation be completed and receiver operation checked out thoroughly before realignment is attempted.

All tuned circuits in the MR1C receiver are peaked for maximum output, as observed on the modulation monitor CARRIER level meter, and on the receiver carrier level meter. Additionally, the loop antenna tuning capacitor is tuned for maximum receiver output. The following procedure is used at the factory for receiver alignment, and may be followed for field readjustment, if necessary.

1. Test Equipment:

The following test equipment is required:

- A. RF Signal Generator: with calibrated adjustable output in the order of one (1) millivolt capable of being amplitude-modulated to a full 100% by an external audio oscillator (Hewlett Packard Model 606-A or equal).
- B. Audio Oscillator: with low distortion sine wave output of 30 cps to 20 kc (Hewlett Packard Model 200-CD or equal).
- C. Modulation Monitor: (General Radio Type 1931-B or equal).
- D. Distortion and Noise Analyzer (General Radio Type 1932-A or equal).
- E. Oscilloscope: with vertical amplifier flat to 2 MC (Tektronix type 545 A or equal).

2. Setup Procedure:

- A. Select and install padding capacitors and output network. Values are selected as follows:
 - (1) Tuned circuit padding capacitors (C61-C65) are selected from Graph D on page 8-4.
 - (2) Output network (C26, L9, & C27) is selected from Graph E and Graph F on page 8-5 and 8-6, respectively.
 - (3) Antenna Padder Capacitor (C66) is selected from Graph C on page 8-3.

2. Setup Procedure (Continued)

- B. Connect a 75-ohm non-inductive resistor to modulation monitor output (J3).
- C. Frequency monitor output (J4) should remain unterminated.
- D. Connect a 600-ohm load to the audio output terminals (TS1-1 and -2).
- E. Connect an external ground to TS1-3. (cold water pipe or better).
- F. Connect line cord to 115 V AC, 60 cps.
- G. Set receiver meter to zero.

3. Tuning Procedure:

- A. Turn receiver and all test equipment on and allow to warm up for at least fifteen (15) minutes.
- B. Set receiver RF COARSE GAIN to 8 and RF FINE GAIN to 5.5, and AGC switch (D3) to OFF.
- C. Connect rf signal generator to receiver input (J3) and set generator output to one (1) millivolt.
- D. Connect oscilloscope across 75 ohm load resistor previously connected to modulation monitor output (J3).
- E. Tune all adjustments (C2, C4, C9, C12, C17, and L9) for maximum indication on oscilloscope.
- F. Disconnect 75 ohm load resistor from modulation monitor output (J3) and connect the modulation monitor.
- G. Adjust modulation monitor TUNE FOR MAXIMUM and SET CARRIER controls for maximum indication on modulation monitor CARRIER meter.
- H. Adjust receiver RF COARSE GAIN for a 200 reading on modulation monitor CARRIER meter.
- I. Turn AGC switch (D3) on and adjust AGC control (R33) for a 150 reading on modulation monitor CARRIER meter.

- J. Set modulation monitor CARRIER level meter to 100 with modulation monitor SET CARRIER control.
- K. Set receiver front panel meter to 100 with meter adjust control (R35).
- L. Modulate rf signal generator with a 1 kc tone to 95% and measure rf distortion.
- M. Retune output network (L9) for minimum distortion at the same time keeping CARRIER meter on the modulation monitor at 100 with the SET CARRIER control.
- N. Measure and record rf channel response and distortion at 95% modulation (using 1 kc as reference) at the following frequencies: 30, 50, 100, and 400 cps; 1, 5, 7.5, 10, 12, and 15 kc.
- C. Measure and record rf channel noise level with respect to 100% modulation at 1 kc.
- P. Measure and record audio channel response and distortion at 95% modulation (using 1 kc and μ 20 dbm as reference) at the following frequencies: 30, 50, 100, and 400 cps; 1, 5, 7.5, 10, 12 and 15 kc.
- NOTE: At the 10 kc modulation point L17, the 10 kc whistle filter, should be adjusted for maximum rejection.
- Q. Measure and record audio channel noise level with respect to 100% modulation at 1 kc.
- R. Modulate the generator with a 400 cps tone at 95% and record the amount of carrier shift observed, as seen on the modulation monitor CARRIER meter and on the receiver meter.
- S. Modulate the generator 95% with a 1 kc tone. Using 95% negative peak as reference, record peak dissymetry as seen on the modulation monitor.
- T. With no modulation into the signal generator, measure and record the unterminated frequency monitor output (J4).
- U. Modulate the signal generator with a 1 kc tone and measure and record the percent modulation at which clipping action occurs (as observed on the oscilloscope).
- V. Advance RF COARSE GAIN and RF FINE GAIN to maximum. Turn AGC switch (D3) to OFF. Measure and record the signal input level to produce 100% output as observed on receiver meter and modulation monitor CARRIER meter.

- W. Reset RF COARSE GAIN to 8, RF FINE GAIN to 5.5, and turn AGC switch (D3) to ON position. Readjust generator for 100% output. Measure and record AGC voltage (J5) and cathode voltage (J6). (These voltages should be approximately the same as shown on Graph B on page 8-2).
- X. Gradually reduce generator output until carrier alarm sounds. Observe and record the percent output at which alarm operates (as seen on receiver meter).
- Y. Testing and alignment of receiver is now complete.

CHART A
TUBE VOLTAGES
TYPE MRIC AM MONITOR RECEIVER

Symbol	Type	Function	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BA6	1st RF	0	8	3.15*	3.15*	150	125	8		
V2	6BA6	2nd RF	0	8	3.15*	3.15*	145	130	8		
V3	6AK5	RF Drive	0	2.5	3.15*	3.15*	200	135			
V4	1614	RF Output	0	3.15*	400	340	0		3.15*	22	
V5	6AU6	Clipper	0	1	3.15*	3.15*	150	100	1		
V6	12AU7	Detector	0	0	0.25	3.15*	3.15*				3.15*
V7	12AU7	Audio Amp.	80	0	2	3.15*	3.15*	190	80	85	3.15*
V8	12AU7	Audio Out.	225	0.5	8.5	3.15*	3.15*	245	1	8.5	3.15*
V9	0A2	Regulator	150				150				
V10	2D21	Alarm **	0 -4 to -8	0 0	3.15* 3.15*	3.15* 3.15*	130* 110*	235* 350*	130* 110*		
X12	S5251	Rectifier				350*		350*		425	

NOTES:

- All voltages measured with respect to chassis ground using RCA Model WV-98A VTVM, or equal.
- Voltages shown are average and may vary somewhat from unit to unit.
- *Indicates 60 cycle AC voltage. All other voltages are DC.
- Measurements made under zero signal conditions, with controls set to minimum and modulation monitor output loaded with 75 ohms.
- ** Indicates normal signal conditions (alarm silenced).

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 1
OF 17

TYPE MRIC ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
B1	Alarm	Buzzer	6 VAC, Size 1	115	Edwards
C1	Loop Tuning	Capacitor	3.9 to 50 mmfd maximum	APC 50	Hammarlund
C2	Grid Tuning	Capacitor	Same as C1	APC 50	Hammarlund
C3.1	Filament Bypass	Capacitor	2x 0.01 mfd, 600 V, Discap	B2X110	Mallory
C3-2	Filament Bypass				
C4	Plate Tuning	Capacitor	Same as C1	APC 50	Hammarlund
C5	Plate Bypass	Capacitor	0.01 mfd, 1000 V, Discap	GP 110	Mallory
C6	Screen Bypass	Capacitor	Same as C5	GP 110	Mallory
C7	Cathode Bypass	Capacitor	0.25 mfd, 600 V, Tubular	P8292ZN29	Aerovox
C8	Coupling	Capacitor	10 mmfd, 500 V, \pm 5%, Silver mica	CM-15-C-100	Elmenco
C9	Grid Tuning	Capacitor	Same as C1	APC 50	Hammarlund
C10	Coupling	Capacitor	500 mmfd, 500 V, \pm 5%, Silver mica	CM-20D-501	Elmenco
C11.1	Filament Bypass	Capacitor	Same as C3	B2X110	Mallory

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 2
OF 17

TYPE MRIC

ELECTRICAL PARTS LIST NO. 30365

UNIT AM Monitor Receiver

REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
C11.2	Filament Bypass	Capacitor	Same as C1	APC 50	Hammarlund
C12	Plate Tuning	Capacitor	Same as C5	GP110	Mallory
C13	Plate Bypass	Capacitor	Same as C5	GP110	Mallory
C14	Screen Bypass	Capacitor	Same as C7	P8292ZN29	Aerovox
C15	Cathode Bypass	Capacitor	Same as C8 (May be adjusted at Factory for particular field strength at Receiving Antenna location)	CM-15-C-100	Elmenco
C16	Coupling	Capacitor	Same as C1	APC 50	Hammarlund
C17	Grid Tuning	Capacitor	100 mmfd, 500V, $\pm 5\%$, Silver mica	CM-15-E-101	Elmenco
C18	Coupling	Capacitor	Same as C3	B2X110	Mallory
C19.1	Filament Bypass	Capacitor	Same as C5	GP 110	Mallory
C19.2	Filament Bypass	Capacitor	Same as C5	GP 110	Mallory
C20	Cathode Bypass	Capacitor	Same as C5	GP 110	Mallory
C21	Screen Bypass	Capacitor	Same as C5	GP 110	Mallory
C22	Decoupling	Capacitor	Same as C5	GP 110	Mallory
C23	Decoupling	Capacitor	Same as C7	P8292ZN29	Aerovox
C24	Coupling	Capacitor	Same as C18	CM-15-E-101	Elmenco

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 3
OF 17

TYPE MRIC ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
C25	Coupling	Capacitor	Same as C5	GP 110	Mallory
C26	Plate Network Tuning	Capacitor	Selected at Factory for Customer's frequency	TCZ or DTZ	Centralab
C27	Plate Network Tuning	Capacitor	Selected at Factory for Customer's frequency	TCZ or DTZ	Centralab
C28.1	Filament Bypass	Capacitor	Same as C3	B2X110	Mallory
C28.2	Filament Bypass	Capacitor	Same as C5	GP 110	Mallory
C29	Cathode Bypass	Capacitor	Same as C5	GP 110	Mallory
C30	Screen Bypass	Capacitor	Same as C5	GP 110	Mallory
C31	Decoupling	Capacitor	Same as C5	GP 110	Mallory
C32	Coupling	Capacitor	50 mmfd, 500V, $\pm 5\%$, Silver mica	CM-15-E-500	Elmenco
C33.1	Filament Bypass	Capacitor	Same as C3	B2X110	Mallory
C33.2	Filament Bypass	Capacitor	Same as C5	GP 110	Mallory
C34	Cathode Bypass	Capacitor	Same as C5	GP 110	Mallory
C35	Screen Bypass	Capacitor	Same as C5	GP 110	Mallory
C36	Tuning	Capacitor	30 mmfd, 500V, $\pm 5\%$, Silver mica	CM-15-E-300	Elmenco
C37	Plate Bypass	Capacitor	Same as C7	P8292ZN29	Aerovox

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 4

OF 17

TYPE MRIC

ELECTRICAL PARTS LIST NO. 30365

UNIT AM Monitor Receiver

REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
C38	Coupling	Capacitor	Same as C8	CM-15-C-100	Elmenco
C39	AGC Filtering	Capacitor	0.05 mfd, 200 V, Tubular	2CP-3-503	Elmenco
C40	Not Used				
C41	Meter Filtering	Capacitor	Same as C40	GP 210	Mallory
C42	Meter Coupling	Capacitor	Same as C40	GP 210	Mallory
C43	Coupling	Capacitor	Same as C10	CM-20D-501	Elmenco
C44	Filter	Capacitor	270 mmfd, 500V, \pm 5%, Silver mica	CM-15-E-271	Elmenco
C45	Filter	Capacitor	Same as C44	CM-15-E-271	Elmenco
C46	Coupling	Capacitor	Same as C18	CM-15-E-101	Elmenco
C47	Bias Filter	Capacitor	1000 mfd, 15 V, Electrolytic, in 1 x "2-1/2" can W/#CE7, Insulating Sleeve	WP 039 CE7	Mallory
C48	Bias Filter	Capacitor	Same as C47, except w/o Insulating sleeve	WP 039	Mallory
C49	Coupling	Capacitor	Same as C7	P8292ZN29	Aerovox
C50	Bypass	Capacitor	Same as C18	CM-15-E-101	Elmenco
C51.1	Decoupling	Capacitor	30-30-20-20 mfd, 450V, Electrolytic	FP444.8	Mallory
C51.2	Decoupling		In 1-3/8" x 3" can		

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 5
OF 17

TYPE MR1C | ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver | REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
C51.3	Power Filter	Capacitor	Same as C7	P8292ZN29	Aerovox
C51.4	Power Filter	Capacitor	Same as C7	P8292ZN29	Aerovox
C52	Coupling	Capacitor	Same as C7	P8292ZN29	Aerovox
C53	Coupling	Capacitor	Same as C7	P8292ZN29	Aerovox
C54	Plate Bypass	Capacitor	Same as C7	P8292ZN29	Aerovox
C55	Bypass	Capacitor	Same as C7	P8292ZN29	Aerovox
C56	Bypass	Capacitor	Same as C7	P8292ZN29	Aerovox
C57	Filter	Capacitor	Same as C7	P8292ZN29	Aerovox
C58.1	Filament Bypass	Capacitor	Same as C3	B2X10	Mallory
C58.2	Filament Bypass	Capacitor	5 mfd, 150 V, Electrolytic	TC40	Mallory
C59	Filter	Capacitor	Same as C10	CM-20D-501	Elmenco
C60	Coupling	Capacitor	Selected at Factory for Customer's frequency	TCZ or DTZ	Centralab
C61	Padding	Capacitor	Selected at Factory for Customer's frequency	TCZ or DTZ	Centralab
C62	Padding	Capacitor	Selected at Factory for Customer's frequency	TCZ or DTZ	Centralab
C63	Padding	Capacitor	Selected at Factory for Customer's frequency	TCZ or DTZ	Centralab

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 6
OF 17

TYPE MR1C ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR. _____

SYMBOL	FUNCTION	NAME OF PART	D E S C R I P T I O N	PART NO.	MANUFACTURER
C64	Padding	Capacitor	Selected at Factory for Customer's frequency	TCZ or DTZ	Centralab
C65	Padding	Capacitor	Selected at Factory for Customer's frequency	TCZ or DTZ	Centralab
C66	Padding	Capacitor	Selected at Factory for Customer's frequency	TCZ or DTZ	Centralab
D1	Power	Switch	DPDT alternate action switch unit	2D26	Microswitch
D2	Alarm	Switch	Same as D1	2D26	Microswitch
D3	AGC	Switch	SPDT	34-088	A. H. & H.
E1	Power	Lamp Assembly	#2C1 operator-Indicator Unit, with two #2B1 gray barriers, two #328 lamps, two #2G6 yellow filters, and one #2A70 three-piece white screen	2C1 2B1 328 2G6 2A70	Microswitch C. M. L.
E2	Alarm	Lamp Assembly	#2C3 Operator-Indicator Unit, with one #2B1 Gray barrier, four #328 lamps, two #2G5 red filters, two #2G7 green filters, and one #2A70 three-piece white screen	2C3 2B1 328 2G5 2G7 2A70	Microswitch C. M. L.

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 7
OF 17

TYPE MRIC ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR. _____

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
F1	Fuse	Holder	With #312002 2 amp. fuse	342003 312002	Littelfuse
J1	Antenna	Connector	With UG-88/U cable plug	UG-290/U UG-88/U	Amphenol
J2	Input	Connector	With UG-88/U cable plug	UG-262/U UG-88/U	Amphenol
J3	Modulation Mon- itor Output	Connector	Same as J1	UG-290/U UG-88/U	Amphenol
J4	Frequency Mon- itor Output	Connector	Same as J1	UG-290/U UG-88/U	Amphenol
J5	AGC	Test Jack	Blue	105-205-100	E. F. Johnson
J6	Cathode	Test Jack	Red	105-202-100	E. F. Johnson
J7	Ground	Test Jack	Black	105-203-100	E. F. Johnson
J8	Power Input	Receptacle	With Unilectric #18-2-SJ Power Cord	2711 18-2-SJ	Gen'l. Elec. Unilectric

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 8
OF 17

TYPE MRIC ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR. _____

SYMBOL	FUNCTION	NAME OF PART	D E S C R I P T I O N	PART NO.	MANUFACTURER
L1	Antenna	Coil	Loop antenna, 14 turns, No. 22 Stranded, insulated wire		CEMC
L2	Antenna Tuning	Coil	Miller No. 43-BP Coil modified per CEMC Drawing No. 5560-A	5560-A	Miller
L3	Grid Tuning	Coil	Miller No. 241-BP Coil Modified per CEMC Drawing No. 31146-A	31146-A	Miller
L4	Plate Tuning	Coil	Same as L3	31146-A	Miller
L5	Grid Tuning	Coil	Same as L3	31146-A	Miller
L6	Plate Tuning	Coil	Same as L3	31146-A	Miller
L7	Grid Tuning	Coil	Same as L3	31146-A	Miller
L8	RF Choke	Coil	750 uh, 125 ma	R33-750	National
L9	Output Tuning	Coil	For 0.5 to 0.7 MC, use 120-243 uh (Silver) For 0.7 to 1.2 MC, use 61-122 uh (Red) For 1.2 to 1.7 MC, use 28-63 uh (Yellow)	X2060-8 X2060-7 X2060-6	C. T. C.
L10	Plate Load	Coil	Same as L8	R33-750	National
L11	D. C. Return	Coil	Same as L8	R33-750	National
L12	Plate Load	Coil	Same as L8	R33-750	National

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 9
OF 17

TYPE MRIC ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO	MANUFACTURER
L13	D. C. Return	Coil	Same as L8	R33-750	National
L14	R. F. Choke	Coil	Same as L8	R33-750	National
L15	D. C. Return	Coil	Same as L8	R33-750	National
L16	Filter	Coil	Same as L8	R33-750	National
L17	Whistle Filter	Filter	10 KC Whistle Filter	EL-57	Miller
L18	Power Supply	Filter Choke	6 HY 200 ma, 150 ohms	C-14A	Triad
M1	Carrier Level	Meter	200 ua, 0-120% scale, per CEMC specification No. 10774-A	1329	Simpson
R1	Broad Banding	Resistor	56K ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite
R2	Broad Banding	Resistor	22K ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite
R3	Screen	Resistor	27K ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 10
OF 17

TYPE MR1C

ELECTRICAL PARTS LIST NO. 30365

UNIT AM Monitor Receiver

REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
R4	Cathode	Resistor	68 ohms, $\pm 10\%$, 1/2 W, composition		Ohmite
R5	Broad Banding	Resistor	Same as R2		Ohmite
R6	Grid	Resistor	220K ohms, $\pm 10\%$, 1/2 W, composition		Ohmite
R7	Broad Banding	Resistor	Same as R2		Ohmite
R8	Screen	Resistor	Same as R3		Ohmite
R9	Cathode	Resistor	Same as R4		Ohmite
R10	Dropping	Resistor	2.7K ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite
R11	Broad Banding	Resistor	Same as R2 (May be adjusted at Factory for particular field strength at Receiving Antenna location)		Ohmite
R12	Grid	Resistor	6.8K ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite
R13	Plate Load	Resistor	10K ohms, $\pm 10\%$, 2W, Composition		Ohmite
R14	Cathode	Resistor	220 ohms, $\pm 10\%$, 1/2 W, composition		Ohmite
R15	Screen	Resistor	56K ohms, $\pm 10\%$, 2W, Composition		Ohmite
R16	Dropping	Resistor	Same as R13		Ohmite
R17	Grid	Resistor	Same as R12		Ohmite
R18	Isolation	Resistor	150 ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 11
OF 17

TYPE MR1C ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR. _____

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
R19	Isolation	Resistor	47 ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite
R20	Cathode	Resistor	270 ohms, $\pm 10\%$, 2W, Composition		Ohmite
R21	Screen	Resistor	27 K ohms, $\pm 10\%$, 2 W, Composition		Ohmite
R22	Voltage Divider	Resistor	10 K ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite
R23	Voltage Divider	Resistor	Same as R22		Ohmite
R24	Voltage Divider	Resistor	1 K ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite
R25	Grid	Resistor	Same as R22		Ohmite
R26	Cathode	Resistor	100 ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite
R27	Screen	Resistor	22 K ohms, $\pm 10\%$, 1 W, Composition		Ohmite
R28	Grid	Resistor	Same as R6		Ohmite
R29	Cathode	Resistor	330 ohms, $\pm 10\%$, 1/2 W, composition		Ohmite
R30	RF Gain(Coarse)	Potentiometer	1000 ohms, 2W, wirewound, with #K-10 Concentrik, and Shaft P8-106	W11-108 K-10 P8-106	CTS-IRC
R31	RF Gain (Fine)	Potentiometer	100 ohms, 2 W, wirewound, with Shaft R10-431, for use with R30. Shafts for R30 and R31 cut to length at CEMC during unit assembly	W11-084 R10-431	CTS-IRC
R32	Isolation	Resistor	2.2 M ohms $\pm 10\%$, 1/2 W, Composition		Ohmite
R33	AGC Adjust	Potentiometer	100 K ohms, Linear, 2 W, Composition, Locking shaft	CLU-1041	Ohmite

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 12
OF 17

TYPE MR1C | ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver | REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
R34	Meter DC Return	Resistor	Same as R2		Ohmite
R35	Meter Adjust	Potentiometer	Same as R33	CLU-1041	Ohmite
R36	Filter	Resistor	Same as R22		Ohmite
R37	Filter	Resistor	100K ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite
R38	D. C. Return	Resistor	470 ohms, $\pm 10\%$, 1W, Composition		Ohmite
R39	D. C. Return	Resistor	Same as R38		Ohmite
R40	Audio Gain	Potentiometer	100 K ohms, Linear, 2W, Composition	CU-1041	Ohmite
R41	Cathode	Resistor	470 ohms $\pm 10\%$, 1/2 W, Composition		Ohmite
R42	Cathode	Resistor	Same as R27		Ohmite
R43	Plate Load	Resistor	47K ohms, $\pm 10\%$, 2 W, Composition		Ohmite
R44	Voltage Divider	Resistor	33K ohms, $\pm 10\%$, 1W, Composition		Ohmite
R45	Voltage Divider	Resistor	Same as R44		Ohmite
R46	Plate Load	Resistor	Same as R27		Ohmite
R47	Grid	Resistor	470K ohms, $\pm 10\%$, 1/2 W, Composition		Ohmite
R48	Cathode	Resistor	560 ohms, $\pm 10\%$, 1W, Composition		Ohmite

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 13
OF 17

TYPE MRIC ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO	MANUFACTURER
R49	Grid	Resistor	Same as R47		Ohmite
R50	Decoupling	Resistor	10 K, 5W, Axial-lead, wire wound		Ohmite
R51	Current Limiting	Resistor	10 K ohms, 10 W "Brown Devil"		Ohmite
R52	D. C. Return	Resistor	Same as R2		Ohmite
R53	Grid	Resistor	1M ohm, \pm 10%, 1/2W, Composition		Ohmite
R54	Isolation	Resistor	Same as R53		Ohmite
R55	Screen	Resistor	Same as R53		Ohmite
R56	Voltage Dropping	Resistor	8 K ohms, 10 W, "Brown Devil"		Ohmite
S1	Alarm	Relay	7000 ohm Coil, 4PDT contact, per CEMC Spec. No. 10705-C	CR2791G122AL1	General Elec.

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 14
OF 17

TYPE MRIC ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR. _____

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO	MANUFACTURER
T1	Audio Output	Transformer	Primary 20K Ct, secondary 600/150 CT, Split & balanced windings	BO-2	Chicago Transformer
T2	Power	Transformer	650 V CT @ 150 ma, 5V @ 3 amp, 6.3 V CT @ 5 amp.	515-Z	ADC
TS1	Connector	Terminal Strip	6 Point Barrier Type Terminal Strip, Y lugs	440 Y-6	Gen. Prod.
V1	1st. RF Amplifier	Tube		6BA6	Sylvania
V2	2nd RF Amplifier	Tube	Same as V1	6BA6	Sylvania
V3	RF Driver	Tube		6AK5	Sylvania
V4	RF Output	Tube		CK1614	Raytheon
V5	Clipper	Tube		6AU6	Sylvania
V6	Detector	Tube		12AU7	Sylvania
V7	1st. Audio Amplifier	Tube	Same as V6	12AU7	Sylvania

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 15
OF 17

TYPE MR1C ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
V8	Audio Output	Tube	Same as V6	12AU7	Sylvania
V9	Voltage Regulator	Tube		O A2	Raytheon
V10	Alarm	Tube		2D21	Raytheon
VS1	V1	Socket	7 pin miniature, shielded base, E-Z Mate, with TS102U02 shield & 288 strap nut	235 PH-3702 120 shield 288 strap nut	Elco
VS2	V2	Socket	Same as VS1		Elco
VS3	V3	Socket	Same as VS1, except with TS102U01 shield & 288 strap nut	235 PH-3702 121 shield 288 strap nut	Elco
VS4	V4	Socket	Octal, Bottom mount	335 PH	Elco
VS5	V5	Socket	Same as VS1	235 PH-3702 120 shield 288 strap nut	Elco
VS6	V6	Socket	9 pin miniature, shield base E-Z mate with TS103U02 169 PH-3905 shield and 290 strap nut	191 shield 290 strap nut	Elco
VS7	V7	Socket	Same as VS6		Elco

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 16
OF 17

TYPE MR1C ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
VS8	V8	Socket	Same as VS6		Elco
VS9	V9	Socket	Same as VS1		Elco
VS10	V10	Socket	Same as VS1, except with TS102U03 shield and 288 strap nut	235 PH-3702 149 shield 288 strap nut	Elco
VS11	X1	Socket	Same as VS4	335 PH	Elco
VS12	C47	Socket	Bottom mount, for 1" Type FP Capacitor	2C5	Cinch
VS13	C48	Socket	Same as VS12	2C5	Cinch
VS14	C51	Socket	Bottom Mount, for 1-3/8" type FP Capacitor	2C7	Cinch
VS15	S1	Socket	14 pin, miniature, bottom mount, relay socket	699PHSPTD	Elco
X1	AGC Rectifier	Crystal Diode	85 V General purpose diode	IN 48S	Sylvania
X2	Meter Rectifier	Crystal Diode	Same as X1	IN 48S	Sylvania
X3	Clipper Input	Crystal Diode	Same as X1	IN 48S	Sylvania
X4	Clipper Input	Crystal Diode	Same as X1	IN 48S	Sylvania
X5	Clipper Output	Crystal Diode	Same as X1	IN 48 S	Sylvania

CONTINENTAL ELECTRONICS MFG. CO.

SHEET 17
OF 17

TYPE MR1C ELECTRICAL PARTS LIST NO. 30365
 UNIT AM Monitor Receiver REF. DWG. NO. 31300-E ENGR.

SYMBOL	FUNCTION	NAME OF PART	DESCRIPTION	PART NO.	MANUFACTURER
X6	Clipper Output	Crystal Diode	Same as X1	IN 48S	Sylvania
X7	Positive Clipper Supply Voltage	Crystal Diode	Same as X1	IN 48S	Sylvania
X8	Negative Clipper Supply Voltage	Crystal Diode	Same as X1	IN 48S	Sylvania
X9	Positive Clipper Supply Voltage	Crystal Diode	Same as X1	IN 48S	Sylvania
X10	Negative Clipper Supply Voltage	Crystal Diode	Same as X1	IN 48S	Sylvania
X11	Alarm Bias	Crystal Diode	Same as X1	IN 48S	Sylvania
X12	Power	Rectifier	IN 2389, Plug-in Silicon	S5251	Sarkes-Tarzia
Z1	Lamp & Filter	Tool	For changing lamps and filters	15PA32	Microswitch

INTRA-UNIT WIRING LIST

UNIT-_____

File # 35049Page 1of 3Title: Type MR1CAM MONITOR RECEIVERSchematic # 31300-EEPL # 30365Assembly# D-31301

FO-_____

Wire #	Size	From	To	Route
The following are filament connections				
(#20 Ga. twisted pair, not in cable form)				
1.1	Yel.	TP18	V5-3	
1.2	Grn.	TP19	V5-4	
2.1	Yel.	V5-3	V6-4&5	
2.2	Grn.	V5-4	V6-9	
3.1	Yel.	V6-4&5	V7-4&5	
3.2	Grn.	V6-9	V7-9	
4.1	Yel.	V7-4&5	V8-4&5	
4.2	Grn.	V7-9	V8-9	
5.1	Yel.	TP18	V10-3	
5.2	Grn.	TP19	V10-4	
6.1	Yel.	V10-3	V4-2	
6.2	Grn.	V10-4	V4-7	
7.1	Yel.	V4-2	V3-3	
7.2	Grn.	V4-7	V3-4	
8.1	Yel.	V3-3	V2-3	
8.2	Grn.	V3-4	V2-4	
9.1	Yel.	V2-3	V1-3	
9.2	Grn.	V2-4	V1-4	
The following are in cable form and				
are #22Ga.wire (Belden #8513 or equal)				
unless otherwise indicated				
10.1		TS1-1	T1-10)	#22 ga. twisted shielded pair
10.2		TS1-2	T1-5)	
10-S		Gnd	(AT TS1))	
11	Bwn	TS1-4	S1-1	
12	Wht	TS1-5	S1-10	
13	Blu	TS1-6	D2-1	

INTRA-UNIT WIRING LIST

UNIT-_____

File # 35049Page 2of 3Title: Type MR1C
AM Monitor REceiverSchematic # 31300-E EPL # 30365 Assembly# D-31301 FO-_____

Wire #	Size	From	To	Route
14	Blu	B1-1	D2-1	
15	Brn	S1-1	E2-A&C-1	
16	Wht	S1-10	E2-B&D-1	
17	Yel	S1-6	D2-3	
18	Gry	S1-7	D2-2	
19	Vio	F1-2	D1-1	
20	Gry	J8-2	T2-2	
21	Blu/Wht	T2-1	D1-2	
22	Grn	T2-3	S1-11	
23	Grn	T2-3	E1-A&C-1	
24.1	Vio	T2-5	X12-4) Twisted pair
24.2	Wht	T2-7	X12-6	
25	Blk	E1-A&C-2	Gnd	(At C55)
26	Blk	B1-2	Gnd	(At C55)
27	Blk	T2-4	Gnd	(At C47)
28	Blk	T2-4	T2-6	
29	Blk	T2-6	T2-9	
30.1	Yel	TP18	T2-8) #20 Ga twisted pair
30.2	Grn	TP19	T2-10	
The following are #22 ga. shielded wire and are in cable form.				
31.1	Grn/Wht	L17-D	TP27	
31-S		Gnd	(At L17)	
32.1	Grn/Wht	V7-2	R40-2	
32-S		Gnd	(At R40)	
33.1	Grn/Wht	C51 4(+)	TP24	
33-S		Gnd	(At C51)	
34.1	Grn/Wht	C51.2(+)	TP26	
34-S		Gnd	(At C51)	
35.1	Grn/Wht	C51 1(+)	TP25	
35-S		Gnd	(At C51)	

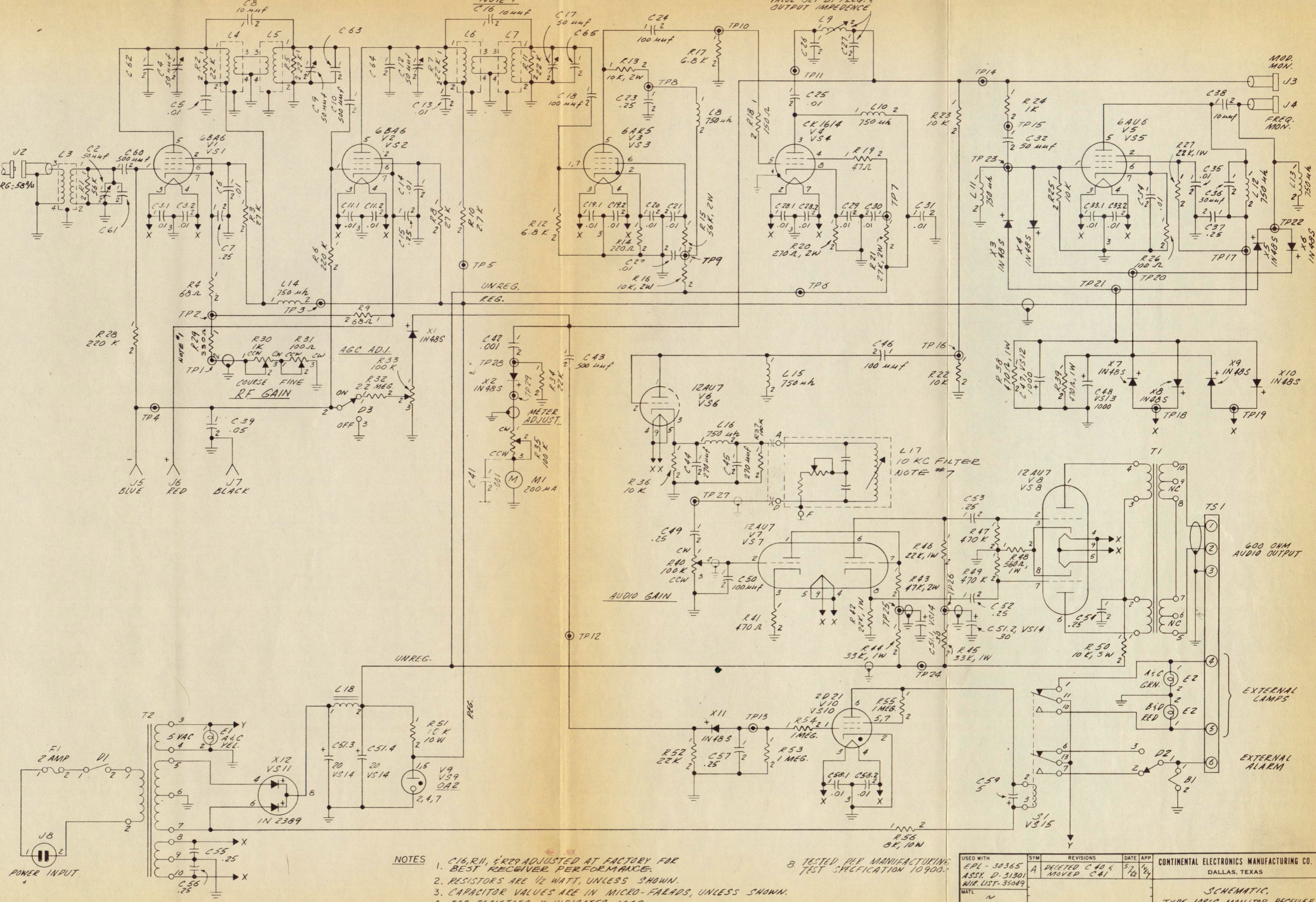
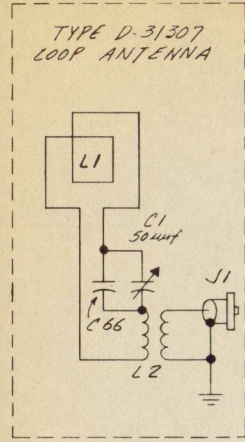
Date 4-3-62

INTRA-UNIT WIRING LIST

UNIT-_____

File # 35049Page 3of 3Title: Type MR1C
AM Monitor ReceiverSchematic # 31300-E EPL # 30365 Assembly# D-31301 FO-_____

Wire #	Size	From	To	Route
36.1	Grn/Wht	V9-5	TP17	
36-S		Gnd	(At C48)	
	The following are not in cable form			
	and are #22 ga. wire (Belden #8513 or equal)			
	unless otherwise indicated			
37.1		J2	L3-2) RG-58A/V Coax.
37-S		Gnd	(At L3 & J2))
38.1	Grn/Wht	R30-1	TP1) #22 ga shielded
38-S		Gnd	(At R 30)
39.1	Grn/Wht	R35-1	TP29) #22 ga. shielded
39-S		Gnd	(At R35))
40.1	Wht	L5-3	L4-3) Twisted pair
40.2	Vio	L5-4	L4-4)
41.1	Wht	L6-3	L7-3) Twisted pair
41.2	Vio	L6-4	L7-4)
42	Gry	M1 (+)	R 35-3	
43	Blk	M1 (-)	Gnd	(At R 35)
44	Bwn	J8-1	F1-1	
45	Grn	S1-11	S1-13	
46	Grn/Wht	V9-5	TP3	
47	Grn/Wht	TP3	TP5	
48	Red	C51.3(+)	X12-8	
49	Red	C51.4(+)	TP6	
	All component connections are shown on			
	Drawing # D-31301			

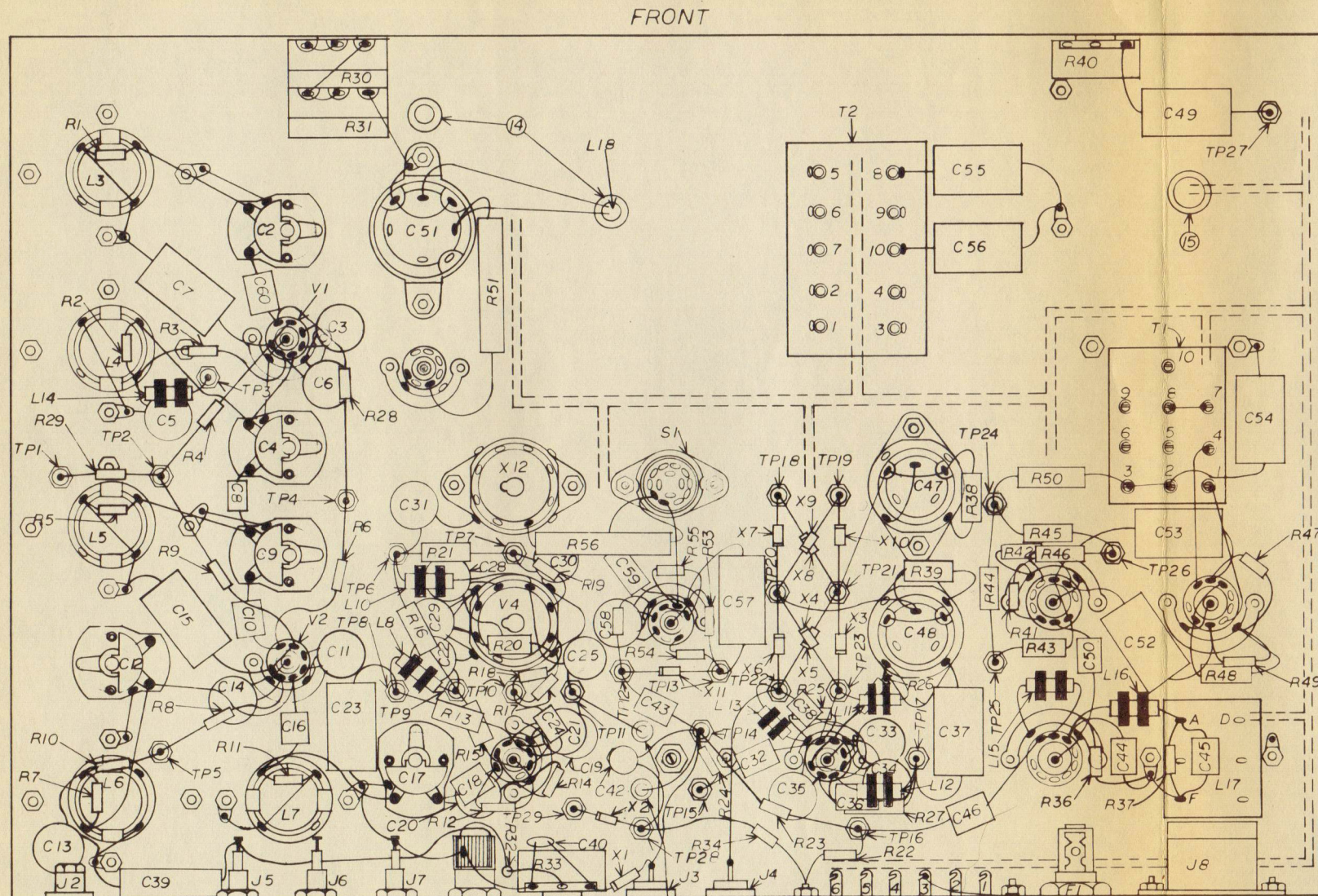


- NOTES
1. C16, R11, R229 ADJUSTED AT FACTORY FOR BEST RECEIVER PERFORMANCE.
 2. RESISTORS ARE 1/2 WATT, UNLESS SHOWN.
 3. CAPACITOR VALUES ARE IN MICRO-FARADS, UNLESS SHOWN.
 4. FOR RESISTORS, K INDICATES 1000.
 5. TP INDICATES COMPONENT TIE POINT.
 6. S1 SHOWN IN CABINET ON (VIO CUTOFF) POSITION.
 7. IF PREFERRED, 10 KC FILTER MAY BE BYPASSED BY MAKING DOTTED LINE CONNECTIONS.
 8. TESTED PER MANUFACTURING TEST SPECIFICATION 10900.

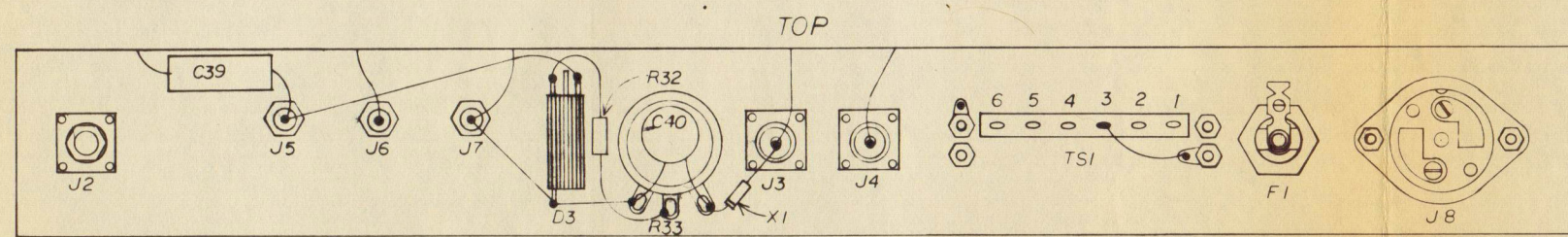
USED WITH	SYM	REVISIONS	DATE	APP
EPL - 30365 ASSY. D-31301 WIR. LIST-35049	A	DELETED C40 & MOVED C41	5/28/44	
MATL				
FIN				
UNLESS OTHERWISE SPECIFIED				
DIMENSIONS IN INCHES				
TOLERANCES				
FRAC.	DEC.	ANG.		
±1/64	±0.015	±1/2°		

SCALE:	END	DRAWN	31300-E
1"	RPB	INEY	
APPD:		2-23-42 2-23-42	

REV	DESCRIPTION	DATE	BY	APPD

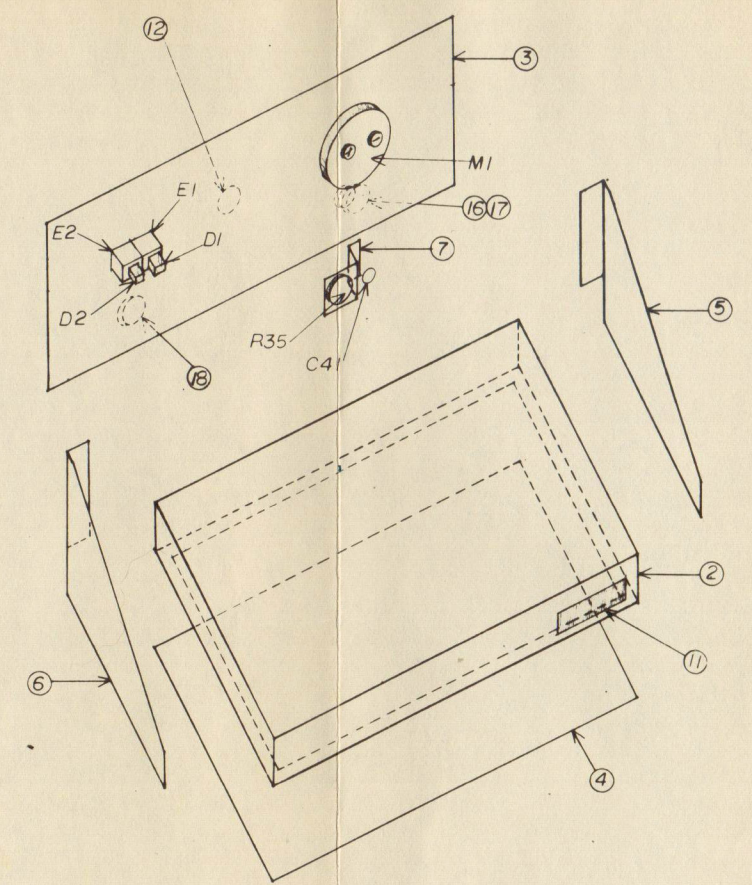


BOTTOM VIEW CHASSIS



INSIDE VIEW REAR APRON

NOTES: (1) PART NUMBERS REFER TO EPL 30365, EXCEPT FOR TPI-TP29 WHICH ARE REFERRED TO AS ITEM (8) ON THIS DRAWING.
 (2) COMPONENT AND BUS CONNECTIONS ONLY ARE SHOWN ON THIS DRAWING, FOR WIRE AND CABLE CONNECTIONS REFER TO WIRING LIST 35049.
 (3) DOUBLE-DASHED LINE INDICATES CABLE ROUTE.
 (4) ITEMS IN ISOMETRIC SKETCH ARE SHOWN 1/4 SIZE, ALL OTHER PARTS ARE FULL SIZE UNLESS OTHERWISE NOTED.
 (5) CHASSIS LIP IS OMITTED FROM BOTTOM VIEW.



REQD	ITEM	PART NUMBER	QTY	DESCRIPTION
1	18	G-74G		HEWLETT-PACKARD KNOB (FOR R40)
1	17	G-74BE		HEWLETT-PACKARD KNOB (FOR R30)
1	16	G-74B		HEWLETT-PACKARD KNOB (FOR R31)
1	15	427		GROMMET FOR 1/2" HOLE
2	14	1042		GROMMET FOR 3/8" HOLE
2	13	54-G		GROMMET FOR 1/4" HOLE
1	12	31514		1" CEMC EMBLEM W/2 1/8" SPEED NUTS
1	11	19031-58		NAMEPLATE
1	10	S-40		MILLER SHIELD (FOR L9) (NOT SHOWN)
5	9	L-110		MILLER SHIELD (FOR L3-L7) (NOT SHOWN)
29	8	1417		USECO INSULATED STANDOFF (TPI-TP29)
1	7	A-31306	A	POTENTIOMETER SUPPORT
1	6	C-31305-2	C	RIGHT CHASSIS SUPPORT
1	5	C-31305-1	C	LEFT CHASSIS SUPPORT
1	4	D-31304	D	BOTTOM COVER
1	3	D-31303	D	FRONT PANEL
1	2	D-31302	D	CHASSIS
1	1	D-31301-1	D	ASSEMBLY, TYPE MRIC AM MONITOR RECEIVER

UNLESS OTHERWISE SPECIFIED TOLERANCES ON: FRACTION		DRAWN C. TELLER 2-14-62	ASSEMBLY TYPE MRIC AM MONITOR RECEIVER DWG NUMBER D-31301	Continental Electronics MANUFACTURING CO. DALLAS, TEXAS
2 PLACE DEC 3 PLACE DEC ANGLES		CHECK		
MACHINED SURFACE FINISH 125/		ENGR R. BUCKNER		
ALL DIMENSIONS ARE IN INCHES AND ARE TO BE MET AFTER FINISHING.		APPD		
ALL HOLES MUST MATCH CORRESPONDING HOLES IN ADJACENT PARTS AT ASSEMBLY.		RELEASE	SCALE FULL	WEIGHT 5
REMOVE ALL BURRS AND SHARP EDGES.			DWG SIZE D	SUN CODE 08440 SHEET 1 OF 1

D-31301



DESIGNERS AND BUILDERS OF THE WORLD'S MOST POWERFUL RADIO TRANSMITTERS