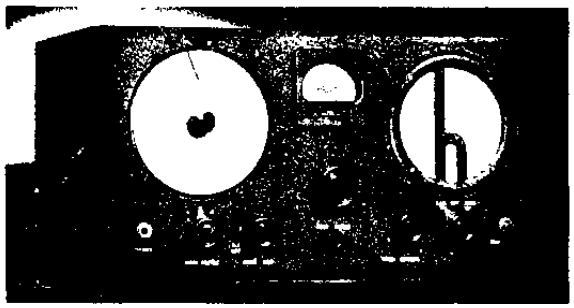
OPERATING INSTRUCTIONS
SKY BUDDY
Model S-19



the hallicrafters inc.
2611 INDIANA AVENUE
CHICAGO

04083819

THE SKY-BUDDY MODEL S-19

THE SKY-BUDDY RECEIVER IS A 5 TUBE 3 BAND SUPERHETERODYNE COVERING THE FOLLOWING FREQUENCIES:

BANDS	COVERAGE
1	540 KC TO 1,800 KC
2	1.70 MC TO 5.75 MC
3	5.62 MC TO 18.40 MC

SEPARATE COILS ARE USED TO COVER EACH BAND. INDUCTIVE COUPLING TO THE ANTENNA PERMITS THE MAXIMUM TRANSFER OF SIGNAL ENERGY FROM EACH SEPARATE PRIMARY TO THE PARTICULAR SECONDARY COIL IN THE CIRCUIT. THE UNUSED COILS ARE SHORTED. THE CALIBRATION ON THE MAIN DIAL IS IN KILOCYCLES ON BAND #1 AND IN MEGACYCLES ON BANDS #2 AND #3.

OF PARTICULAR IMPORTANCE IS THE NEW DIAL MECHANISM. THIS FEATURE GIVES IMPROVED MECHANICAL BANDSPREAD SO THAT ALL STATIONS ARE MORE EASILY TUNED-IN. THE BAND-SPREAD DIAL WILL PROVE HELPFUL PARTICULARLY WHEN COVERING THE AMATEUR FREQUENCIES.

THE NEW SKY-BUDDY IS EQUIPPED WITH A SEND-RECEIVE SWITCH. THROUGH THE USE OF THIS SWITCH THE RECEIVER CAN BE MADE TEMPORARILY INOPERATIVE FOR STAND-BY PERIODS SHOULD THE OPERATOR BE USING THE RECEIVER IN CONJUNCTION WITH A TRANSMITTER.

ANTENNA: - ON THE BACK OF THE CHASSIS WILL BE FOUND THE ANTENNA, DOUBLET AND GROUND TERMINAL STRIP. A CONVENTIONAL SINGLE WIRE ANTENNA SHOULD BE CONNECTED TO A1 AND THE JUMPER BETWEEN A2 AND G LEFT CONNECTED. FOR AN ANTENNA OF THIS TYPE WE RECOMMEND SIZE #14 WIRE APPROXIMATELY 75 FEET LONG. IF A DOUBLET ANTENNA IS USED THE JUMPER BETWEEN A2 AND G SHOULD BE REMOVED. THE TWO WIRES OF THE DOUSLET LEAD-IN SHOULD THEN BE CONNECTED TO A1 AND A2. A GROUND CAN BE CONNECTED TO THE TERMINAL MARKED "G" WITH EITHER TYPE OF ANTENNA. IT IS SUGGESTED THAT A GROUND BE LEFT OFF THE RECEIVER ONLY IF IN SO DOING THE PERFORMANCE OF THE RECEIVER IS IMPROVED. THERE ARE SO MANY TYPES OF ANTENNAE WE SUGGEST TO THE USER WHO WISHES TO EXPERIMENT WITH DIFFERENT AERIALS THAT HE FAMILIARIZE HIMSELF WITH THE "ANTENNA" SECTION OF THE A.R.R.L. HANDBOOK.

OPERATION: - UNLESS OTHERWISE SPECIFIED THE RECEIVER IS DESIGNED TO OPERATE ON 110-120 VOLTS, 60 CYCLE ALTERNATING CURRENT. PLUG THE POWER CORD INTO THE SOCKET AND TURN THE CONTROL MARKED "AUDIO GAIN" TO THE RIGHT. THIS WILL OPERATE A SWITCH WHICH WILL CONNECT THE RECEIVER TO THE POWER LINE. AFTER THE REQUIRED FEW MOMENTS HAVE PASSED FOR THE TUBES TO REACH OPERATING TEMPERATURE, THE UNIT CAN THEN BE PLACED IN OPERATION. THE "BANDS" SWITCH SHOULD BE SET ON BAND #1, OR STANDARD BROADCAST, WHEN THE RECEIVER IS FIRST USED. AFTER THE OPERATOR HAS FAMILIARIZED HIMSELF WITH THE OPERATION OF THE RECEIVER ON THAT RANGE, THE TWO HIGHER - FREQUENCY BANDS MAY BE TUNED.

THE A.V.C. - BEAT OSCILLATOR CONTROL IS OPERATED AS FOLLOWS: WITH THE KNOB TURNED TO THE LEFT THE AUTOMATIC VOLUME CONTROL IS "ON" AND THE BEAT FREQUENCY OSCILLATOR IS "OFF". TURNING THE KNOB TO THE CENTER POSITION DISCONNECTS BOTH THE A.V.C. AND THE B.F.O. WITH THE KNOB TURNED TO THE RIGHT THE A.V.C. WILL BE DISCONNECTED AUTOMATICALLY AND THE B.F.O. TURNED "ON". IT IS NOT POSSIBLE TO USE A.V.C. WITH THE BEAT OSCILLATOR "ON". THIS WILL BE A HELPFUL FEATURE IN RECEIVING CODE SIGNALS, WHERE MAXIMUM SENSITIVITY IS DESIRED, BY REMOVING THE LAG INTRODUCED BY THE A.V.C. ACTION. WHEN TUNING FOR WEAK STATIONS THEY CAN BE MORE EASILY LOCATED BY HAVING THE B.F.O. "ON". ONCE THE WHISTLE OF THE STATION'S CARRIER IS HEARD THE B.F.O. MUST BE TURNED "OFF" OR THE WHISTLE WILL INTERFERE WITH THE MUSIC OR SPEECH BEING RECEIVED. FOR CONTINUOUS WAVE CODE RECEPTION, NATURALLY, THE BEAT OSCILLATOR MUST BE LEFT ON SO THAT A BEAT NOTE WILL RESULT. THE KNOB MARKED "PITCH CONTROL" WILL ALLOW YOU TO VARY THE FREQUENCY OF THE BEAT NOTE TO ONE THAT WILL BE MOST PLEASING TO YOU.

THE S-19 MODEL SKY-BUDDY HAS A HEADPHONE JACK MOUNTED ON THE PANEL. ANY TYPE OF HEADPHONES CAN BE USED WITH THE RECEIVER BECAUSE NO DIRECT CURRENT FLOWS IN THE HEADPHONE CIRCUIT. WHEN THE PHONE PLUG IS INSERTED IN THE HEADPHONE JACK THE LOUD-SPEAKER IS AUTOMATICALLY DISCONNECTED.

THE TUBE LINE-UP OF THE SKY-BUDDY RECEIVER IS AS FOLLOWS:

6K8	1ST DETECTOR - MIXER
EARLY 6P7, LATE 6L7	I. F. AMPLIFIER - BEAT OSCILLATOR
6Q7	2ND DETECTOR, A.V.C., 1ST STAGE OF AUDIO
6K6	AUDIO OUTPUT STAGE
80	RECTIFIER

THE A.V.C. - BEAT OSCILLATOR CONTROL IS OPERATED AS FOLLOWS: WITH THE KNOB TURNED TO THE LEFT THE AUTOMATIC VOLUME CONTROL IS "ON" AND THE BEAT FREQUENCY OSCILLATOR IS "OFF". TURNING THE KNOB TO THE CENTER POSITION DISCONNECTS BOTH THE A.V.C. AND THE B.F.O. WITH THE KNOB TURNED TO THE RIGHT THE A.V.C. WILL BE DISCONNECTED AUTOMATICALLY AND THE B.F.O. TURNED "ON". IT IS NOT POSSIBLE TO USE A.V.C. WITH THE BEAT OSCILLATOR "ON". THIS WILL BE A HELPFUL FEATURE IN RECEIVING CODE SIGNALS, WHERE MAXIMUM SENSITIVITY IS DESIRED, BY REMOVING THE LAG INTRODUCED BY THE A.V.C. ACTION. WHEN TUNING FOR WEAK STATIONS THEY CAN BE MORE EASILY LOCATED BY HAVING THE B.F.O. "ON". ONCE THE WHISTLE OF THE STATION'S CARRIER IS HEARD THE B.F.O. MUST BE TURNED "OFF" OR THE WHISTLE WILL INTERFERE WITH THE MUSIC OR SPEECH BEING RECEIVED. FOR CONTINUOUS WAVE CODE RECEPTION, NATURALLY, THE BEAT OSCILLATOR MUST BE LEFT ON SO THAT A BEAT NOTE WILL RESULT. ~~THE KNOB MARKED "PITCH CONTROL" WILL ALLOW YOU TO VARY THE FREQUENCY OF THE BEAT NOTE TO ONE THAT WILL BE MOST PLEASING TO YOU.~~ Knob marked "Control" varies IF Amplifier gain.

THE S-19 MODEL SKY-BUDDY HAS A HEADPHONE JACK MOUNTED ON THE PANEL. ANY TYPE OF HEADPHONES CAN BE USED WITH THE RECEIVER BECAUSE NO DIRECT CURRENT FLOWS IN THE HEADPHONE CIRCUIT. WHEN THE PHONE PLUG IS INSERTED IN THE HEADPHONE JACK THE LOUD-SPEAKER IS AUTOMATICALLY DISCONNECTED.

THE TUBE LINE-UP OF THE SKY-BUDDY RECEIVER IS AS FOLLOWS:

6K8	1ST DETECTOR - MIXER
6L7	I. F. AMPLIFIER - BEAT OSCILLATOR
6Q7	2ND DETECTOR, A.V.C., 1ST STAGE OF AUDIO
6K6	AUDIO OUTPUT STAGE
80	RECTIFIER

RESISTORS

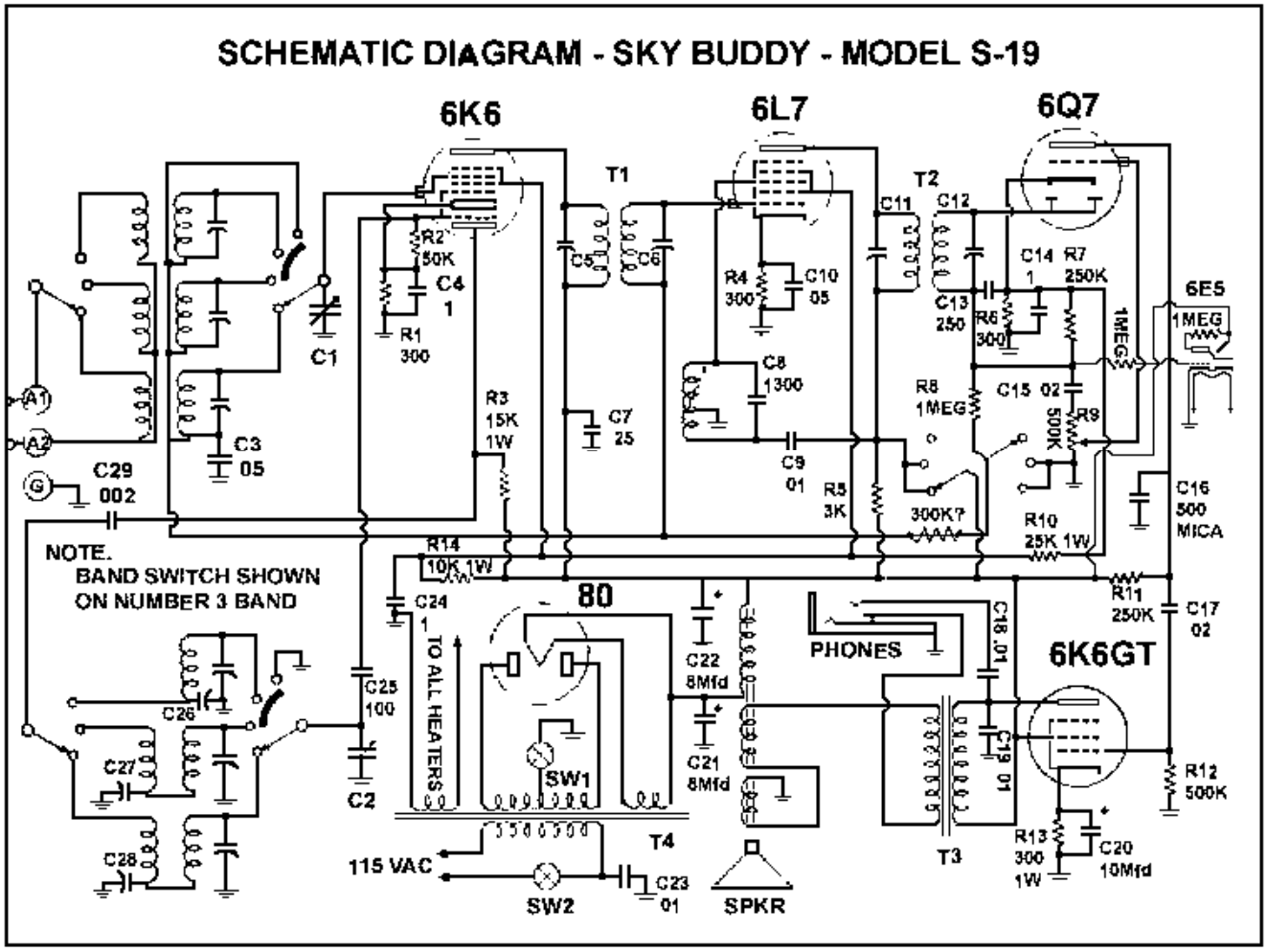
No.	Ohms	Wattage	Parts No.
R1	200	1/3	20-015
2	50,000	"	20-084
3	15,000	1	20-067
4	300	1/3	20-021
5	3,000	"	20-048
6	300	"	20-021
7	250,000	"	20-099
8	1,000,000	"	20-108
9	500,000	VOLUME CONTROL	25-031
10	25,000	1	20-073
11	250,000	1/3	20-099
12	500,000	"	20-084
13	500	1	20-025
14	10,000	1	20-061

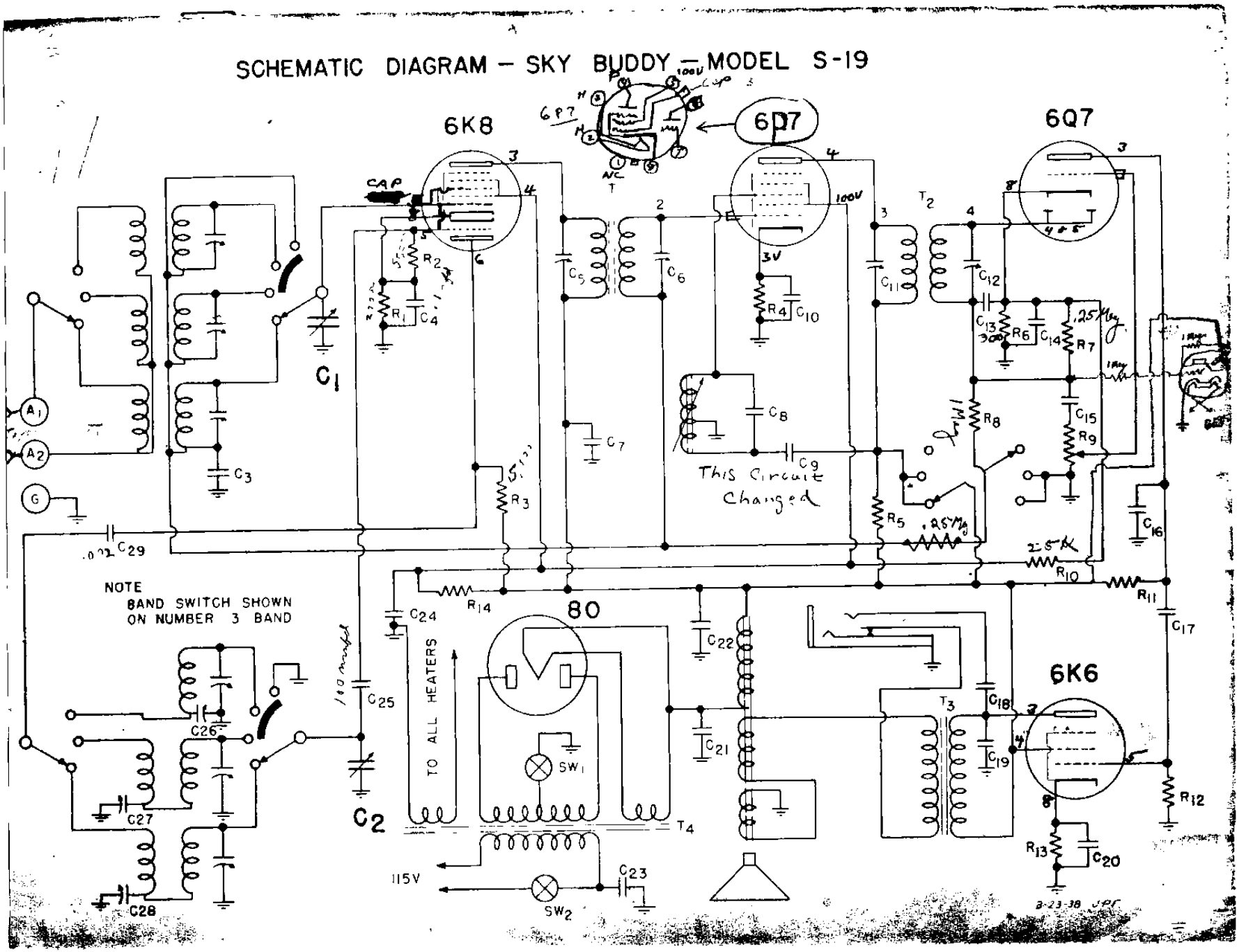
SWITCHES

SW	
1	SEND - RECEIVE SPST
2	AC ON - OFF (ON AF GAIN)

CONDENSERS

No.	Capacity	Type	Voltage	Parts No.
C1	408 MMFD	MAIN TUNING		48-021
2	" "			
3	.05 MFD		200	41-004
4	.1 "		200	41-006
5	TUNING CONDENSER	MOUNTED	IN IF CAN	
6	"	"	" " "	
7	.25 MFD		400	41-009
8	1,500 MMFB	MICA		40-022
9	.01 MFD		400	41-001
10	.05 "		200	41-004
11	TUNING CONDENSER	MOUNTED	IN IF CAN	
12	"	"	" " "	
13	250 MMFD	MICA		40-007
14	.1 MFD		200	41-006
15	.02 "		200	41-002
16	.0005 "	"		40-009
17	.02		400	41-003
18	.01 "		600	45-002
19	.01 "		600	45-002
20	10 "		25	
21	8 "		450	42-021
22	8 "		450	
23	.01 "		400	41-001
24	.1 "		400	41-007
25	.0001 "	"		40-007
26	430 MMFD	"	TRIMMER	40-025
27	1,300 "	"	"	44-024
28	2,100 "	"	"	44-025
29	.002 MFD	"		40-013


SCHEMATIC DIAGRAM - SKY BUDDY - MODEL S-19
6K6
6L7
6Q7
6E5
6K6GT
T1
T2
T3
T4
A1
A2
G
C1
C2
C3
05
C4
1
C5
C6
C7
25
C8
1300
C9
01
C10
05
C11
C12
C13
250
C14
1
C15
02
C16
500
MICA
C17
02
C18
.01
C19
01
C20
10Mfd
C21
8Mfd
C22
8Mfd
C23
01
C24
1
C25
100
C26
C27
C28
C29
002
R1
300
R2
50K
R3
15K
1W
R4
300
R5
3K
R6
300
R7
250K
R8
1MEG
R9
500K
R10
25K 1W
R11
250K
R12
500K
R13
300
1W
R14
10K 1W
1MEG
300K?
80
SW1
SW2
115 VAC
SPKR
PHONES
TO ALL HEATERS
NOTE.
BAND SWITCH SHOWN
ON NUMBER 3 BAND


SCHEMATIC DIAGRAM – SKY BUDDY – MODEL S-19
6K8
6P7
6p7
6Q7
6K6
80
CAP
100V
3V
T
T2
T3
T4
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
C25
C26
C27
C28
C29
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
.25 Meg
2.5 K
.02
100 mmfd
This Circuit Changed
NOTE
8 BAND SWITCH SHOWN
ON NUMBER 3 BAND
TO ALL HEATERS
115V
SW1
SW2
A1
A2
G
8-23-38