



COMPLETE ASSEMBLY DATA and DIAGRAMS FOR THE
CONSTRUCTION OF

THE *"fidelity"*
PREAMPLIFIER—TONE
CONTROL UNIT

INCORPORATES:

- EQUALISER FOR GRAM.
- STEEPCUT FILTER
- SEPARATE BASS and TREBLE CONTROLS
- INPUTS FOR (a) MICROPHONES
(b) LOW and HIGH GAIN PICKUPS
(c) RADIO TUNING UNIT
- VARIABLE OUTPUT CONTROL ENABLES USE WITH
ANY AMPLIFIER

STERN RADIO LTD,
109 and 115, FLEET STREET, E.C.4

Telephone: FLEET STREET 5812-3-4.



THE "fidelity" PREAMPLIFIER - TONE CONTROL UNIT

In designing this Unit particular attention has been paid to the requirements of the "Hi Fi" enthusiasts and we are fully confident that the extreme flexibility of it will immediately be apparent to the most critical user, it is certainly at least equal in performance to similar Units offered commercially at about double the price. It can be used with any Amplifier where correct matchings and a really good flexible tone range are desired.

The main features are correct equalising for gramophone reproduction, separate and continuously variable control of bass and treble and extreme simplicity of operation. The high gain of the Unit permits the use of all types of Pick Ups, including the low impedance types, such as the Decca "H" Heads, without the use of a Matching Transformer.

SPECIFICATION

The completed Unit is totally enclosed in a Steel Case of which the top and bottom covers are readily removed to give immediate access to the wiring. The whole Control Unit is very attractively finished in Golden Hammer with a separate front panel which is clearly engraved.

INPUT SOCKETS FOR ...	(a) Microphone. (b) Low Gain Pick Ups. (c) High Gain Pick Ups. (d) Radio Tuning Unit - This is combined with Power Outlet Socket to feed Tuning Unit.
SELECTOR SWITCH	A 6 position Switch is incorporated, this provides for the above inputs and also for the Equaliser.
* EQUALISATION FOR	78 rpm, - Decca L.P. - Ortho L.P. and N.A.R.T.B./L.P.
* FILTER	A 4 position Low Pass Filter provides cut-offs at 5 K/c - 7 K/c - 10 K/c and a Linear Position.
TONE CONTROL	Continuously variable separate Bass and Treble, each giving variations ± 18 db to the linear position.
SIGNAL INPUT	The <u>Maximum</u> undistorted Output is 10 Volts. 2 Volts Output is obtained for the following input voltages ... (a) Microphone 10 m/Volts. (b) Pick Up (Low Gain) 30 m/Volts. (c) Pick Up (High Gain) 1 Volt. (d) Radio Tuner 100 m/Volts.
OUTPUT CONTROL	A Pre-set Output Control is provided so that the output may be varied to suit all makes and types of Main Amplifiers.
CONSUMPTION	0.9 amps at 0.3 Volts. H.T. Voltage is taken from D.C. supplies or from 250 to 400 Volts and requires 3 m/a.
VALVES	2 off types ECC83 / 12AX7.
MAIN SWITCH	A mains On/Off Switch is mounted externally, thus avoiding pick up of mains hum.
DIMENSIONS	10 $\frac{3}{4}$ " x 6 $\frac{1}{2}$ " x 2 $\frac{3}{4}$ " (Panel 11 $\frac{1}{2}$ " x 3 $\frac{1}{4}$ " x 3/16").

* The assembly of the Equaliser and Filter Units are very critical and accordingly we only supply them completely assembled and of course thoroughly checked and tested. The remainder of the Control Unit however is extremely simple to make up the drawings are very simple to follow and even a "novice" Constructor can successfully complete the assembly.

STERN'S "fidelity" PREAMPLIFIER - TONE CONTROL UNIT

We Will Supply The Complete Kit of Parts, Including

Guaranteed Valves For £6 - 6 - 0
(plus 5/- carriage & ins.)

o r

SENT FOR KIT 21/11/56

We Will Supply The Unit Completely Assembled and

Tested Ready For Use For £8 - 0 - 0

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C O M P O N E N T L I S T

RESISTORS	Code	£ s d	Miscellaneous, continued.	£ s d
R1	47K Yellow-Mauve-Orange	4	7 4BA x 1/2" Screws R/H	}
R2	220K Red-Red-Yellow	4	7 4BA Nuts	
R3	220K Red-Red-Yellow	4	8 6BA x 3/8" Screws R/H	} 1 3
R4	220K Red-Red-Yellow	4	8 6BA Nuts	
R5	220K Red-Red-Yellow	4		
R6	2.2K Red-Red-Red	4		
R7	1 Meg Brown-Black-Green	4	When ordered in one	£1/12/10d
R8	100K Brown-Black-Yellow	4	parcel, we will supply	
R9	100K Brown-Black-Yellow	4	the complete Miscellaneous Set	
R10	470K Yellow-Mauve-Yellow	4	for	£1/10/0.
R11	100K Brown-Black-Yellow	4	=====	
R12	4.7K Yellow-Mauve-Red	4	CONDENSERS	£ s d
R13	1K Brown-Black-Red	4	C1 50mfd 12 Volt. Ins. W/E.	2 0
R14	2.2K Red-Red-Red	4	C2 5000pF (.005mfd) Tube or	
R15	68K Blue-Grey-Orange	4	Disc.	9
R16	100K Brown-Black-Yellow	4	C3 5000pF (.005mfd) Tube or	
R17	2.2K Red-Red-Red	4	Disc	9
R18	100K Brown-Black-Yellow	4	C4 100pF (.0001mfd) Ceramic	
R19	220K Red-Red-Yellow	4	or Silver Mica	6
R20	2.2 Meg Red-Red-Green	4	C5 .1mfd 350/500 Volt Tube	1 3
R21	2.2K Red-Red-Red	4	C6 50mfd 12 Volt, Ins. W/E	2 0
R22	100K Brown-Black-Yellow	4	C7 .05mfd 350/500 Volt Tube	1 0
R23	100K Brown-Black-Yellow	4	C8 50mfd 12 Volt, Ins. W/E	2 0
R24	100K Brown-Black-Yellow	4	C9)	
			C10) 16-32-32 mfd. 350/500	7 6
			C11) Volt or similar	
			C12 50mfd 12 Volt, Ins. W/E	2 0
			C13 .05mfd 350/500 Volt, Tube	1 0
		8/0		
			When ordered in one	£1/0/9d
			parcel, we will supply	
			the complete set of	
			Condensers for	18/-
			=====	
MISCELLANEOUS		£ s d	CONTROLS	£ s d
1	Box Chassis, complete with		VR1 1 or 2 Meg, Linear	
	Panels, Platform and		Potentiometer (Bass)	3 9
	Engraved Front Panel	1 1 0	VR2 1/2 Meg, C.T., Linear	
2	B9A Valve Holders	1 6	Potentiometer (Treble)	6 6
1	I.O. Valve Holder	9	VR3 250K Log, Potentiometer	
1	2 pin Plug and Socket	1 0	(Volume)	3 9
1	4 pin Plug and Socket	1 0	VR4 1/2 or 1 Meg Pre-Set	
2	5 Way Tag Strips	8	Pot'meter (output)	2 6
1	2 Way Tag Strip	2	1 Bulgin On-Off Rotary	
1	Pilot Lamp Holder	6	Switch	2 9
1	6.3 Volt Bulb	8	1 Extension Shaft	6
1	Pilot Bezel	1 6	1 Shaft Coupler	9
1	Cable Clip	2	5 Pointer Knobs	3 9
1	1/2 inch Grommet	2	1 Switch Knob	9
1yd	4 Core Cable	1 3		
1yd	Insulated Single Screened			
	Wire	9		
1yd	14/36 P.V.C. Wire Blue)			
1yd	14/36 P.V.C. Wire Yellow)			
1yd	14/36 P.V.C. Wire Black)	6	When ordered in one	£1/5/0
1ft	14/36 P.V.C. Wire Red)		parcel we will supply	
1ft	14/36 P.V.C. Wire Green)		the complete Control Set	
1ft	14/36 P.V.C. Wire White)		for	£1/3/0.

COMPONENT LIST, continued ...

1 Equaliser Switch Assembly Complete 14/-.

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1 Steepcut Filter Assembly Complete £1/3/6d.

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VALVES

2 Type ECC83 (or 12AX7) New Mullard (or Brimar)
Fully Guaranteed £2/8/8d.

or alternatively (when available)

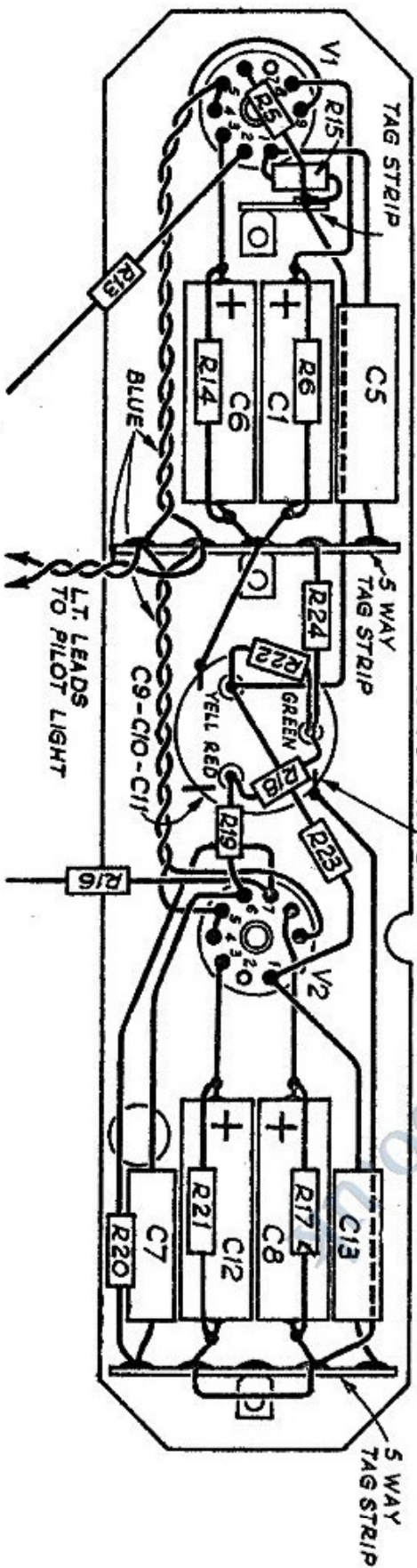
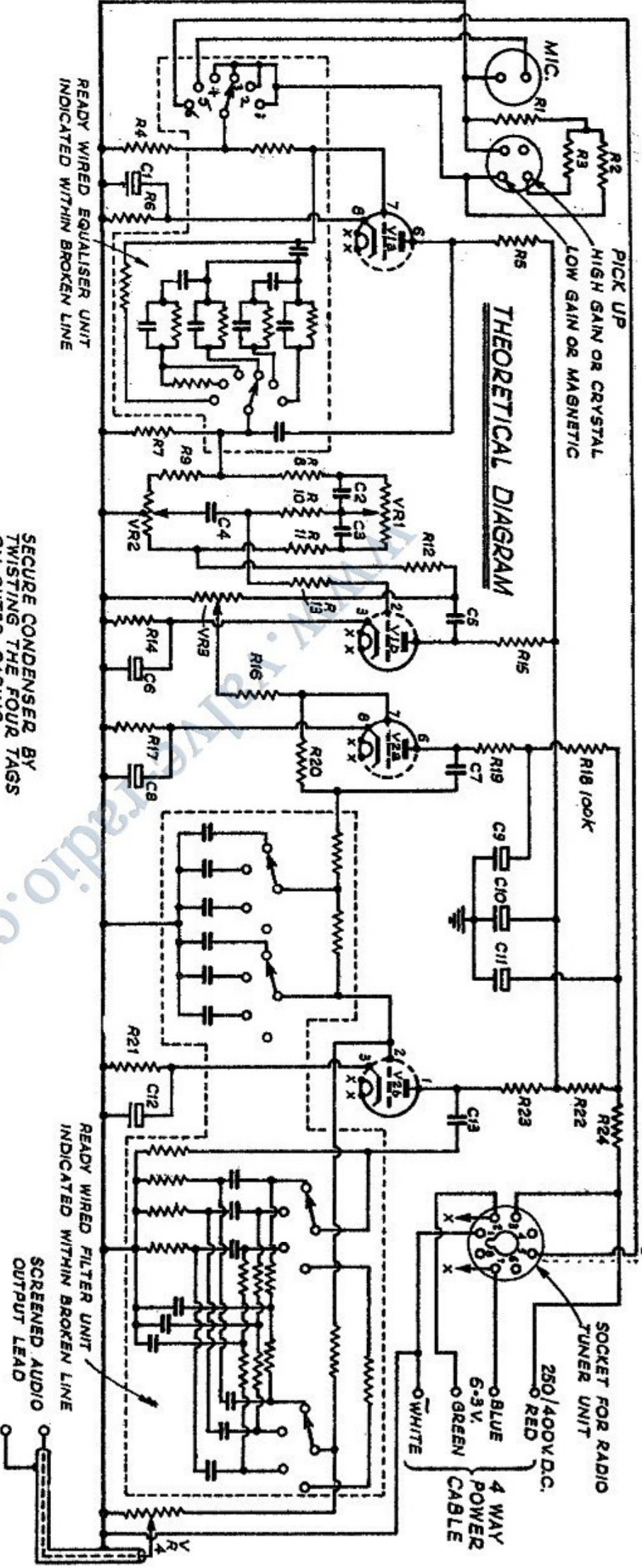
2 Equivalent Surplus Valves (not covered by guarantee) £1/7/6d.

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PLEASE INCLUDE 1/- EXTRA FOR CARRIAGE and INSURANCE WITH ALL
SUNDRY ORDERS.

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www.valve-radio.co.uk



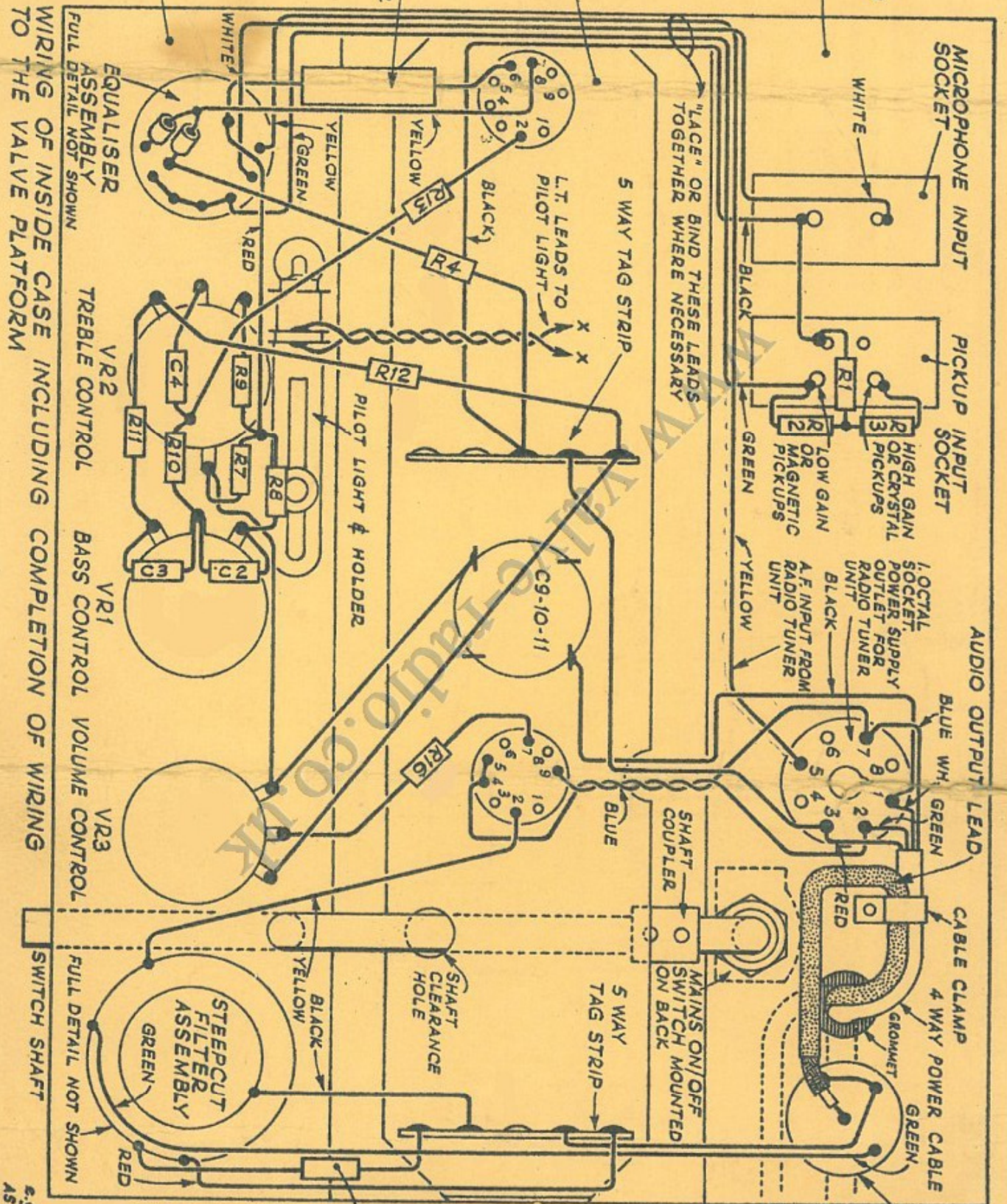
SECURE CONDENSER BY
TWISTING THE FOUR TAGS
ON OUTER CASING

CASE BACK
PANEL VIEWED
FROM INSIDE

VALVE
PLATFORM
VIEWED FROM
UNDERSIDE

CASE FRONT
PANEL VIEWED
FROM INSIDE

.1 MFD. CONDENSER
SUPPLIED READY
WIRED TO EQUALISER
ASSEMBLY



WIRING OF INSIDE CASE INCLUDING COMPLETION OF WIRING
TO THE VALVE PLATFORM

FULL
DETAIL
NOT
SHOWN

EQUALISER
ASSEMBLY

TREBLE CONTROL
VR2

BASS CONTROL
VR1
VOLUME CONTROL
VR3

STEPCUT
FILTER
ASSEMBLY

SWITCH SHAFT



6.3. LEAD 'A' IS INDICATED
AS BEING CONNECTED
BEFORE LEAD 'B'.

100KΩ RESISTOR
ALREADY CONNECTED
TO FILTER
ASSEMBLY

TO FACILITATE CORRECT
WIRING SEQUENCE LEADS
SHOWN CROSSING ON
THE DRAWING ARE
DRAWN AS BROKEN OR
WHOLE. THOSE SHOWN
BROKEN ARE CONNECT-
IONS NORMALLY
CARRIED OUT BEFORE
THOSE SHOWN
UNBROKEN

VR4 OUTPUT
CONTROL
(PRESET)

RED H.T.+
GREEN } 6.3V
BLUE }
WHITE CHASSIS
INPUT GRID
CHASSIS
CONNECTIONS
TO MAIN
AMPLIFIER

"LACE" OR BIND THESE LEADS
TOGETHER WHERE NECESSARY

5 WAY TAG STRIP

L.T. LEADS TO
PILOT LIGHT

PILOT LIGHT & HOLDER

C9-10-11

SHAFT
CLEARANCE
HOLE

5 WAY
TAG STRIP

MAIN ON/OFF
SWITCH MOUNTED
ON BACK

SHAFT
COUPLER

CABLE CLAMP
4 WAY POWER CABLE

BLUE WH. GREEN
AUDIO OUTPUT LEAD

1. OCTAL
SOCKET.
POWER SUPPLY
OUTLET FOR
RADIO TUNER
BLACK
A.F. INPUT FROM
RADIO TUNER
UNIT
YELLOW

HIGH GAIN
OR CRYSTAL
PICKUPS
R1
LOW GAIN
OR MAGNETIC
PICKUPS
R2

PICKUP INPUT
SOCKET

MICROPHONE INPUT
SOCKET