Instruction Leaflet

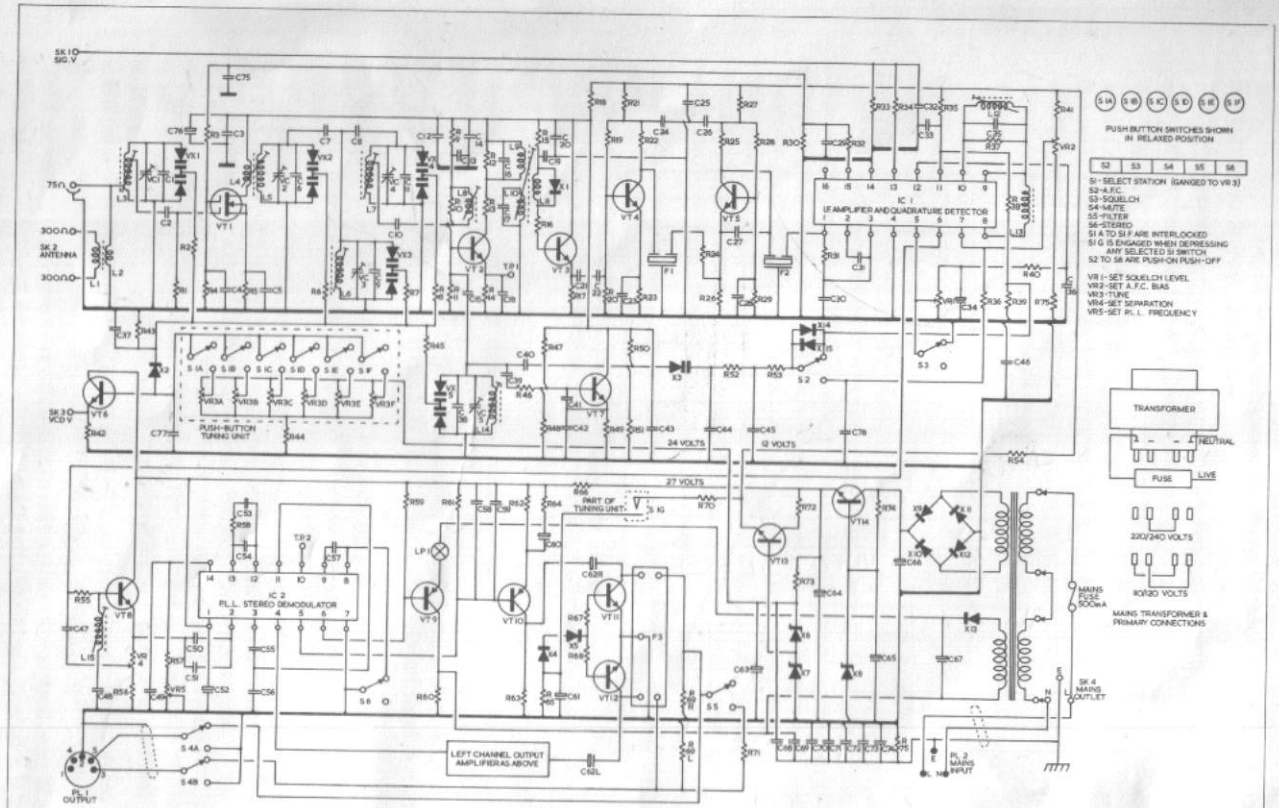
J E SUGDEN

T48 Tuner

T48 Tuner Components List

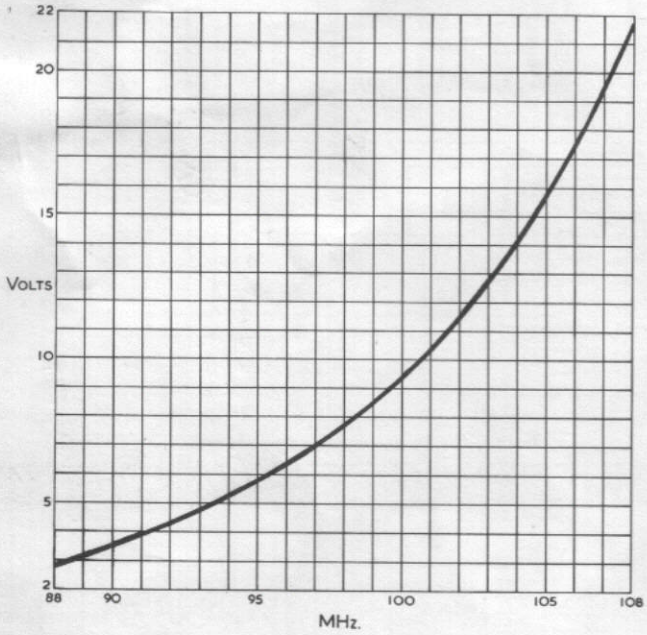
R 1	100K	R39	10K	C 1	6p	C39	10p	C77	220n	X 1	1N4148
R 2	100K	R40	390R	C 2	47p	C40	10p	C78	10n	X 2	1N4148
R 3	22K	R41	15K	C 3	10n	C41	33p			X 3	BA121
R 4	1M	R42	47K	C 4	10n	C42	8p	VR1	100K	X 4	1N4148
R 5	47R	R43	82K	C 5	10n	C43	10n	VR2	100K	X 5	1N4148
R 6	100K	R44	2K2	C 6	6p	C44	10n	VR3	6 x 100K	X 6	BZX79-C10
R 7	100K	R45	100K	C 7	0.5p	C45	220n	VR4	1K	X 7	BZX79-C13
R 8	100K	R46	4R7	C 8	0.5p	C46	10n	VR5	10K	X 8	BZX79-C27
R 9	18K	R47	47K	C 9	6p	C47	1n5			X 9	1N4002
R10	330R	R48	12K	C10	8p	C48	100p	VT 1	3SK40	X10	1N4002
R11	6K8	R49	1K5	C11	6p	C49	470p	VT 2	2SC535	X11	1N4002
R12	33K	R50	100K	C12	10n	C50	220n	VT 3	2SC829	X12	1N4002
R13	100R	R51	22K	C13	200p	C51	220n	VT 4	BF194B	X13	1N4002
R14	2K2	R52	22K	C14	10n	C52	470u	VT 5	BF194B	X14	1N4148
R15	820K	R53	470K	C15	2p	C53	220n	VT 6	BC549CS	X15	1N4148
R16	470R	R54	33R	C16	6p	C54	220n	VT 7	2SC829		
R17	680R	R55	4K7	C17	6p	C55	220n	VT 8	BC549CS	F1	10.7 MHz Ceramic Filter
R18	100R	R56	6K8	C18	10n	C56	1n0	VT 9	BC558	F2	10.7 MHz Ceramic Filter
R19	18K	R57	15K	C19	10n	C57	220n	VT10	BC558	F3	19 KHz + 38 KHz Filter
R20	18K	R58	1K2	C20	10n	*C58	3n3	VT11	BC548		
R21	33R	R59	22K	C21	10n	*C59	6n8	VT12	BC548		
R22	330R	R60	100R	C22	10n	C60	10u	VT13	BC548		
R23	1K	R61	6K8	C23	10n	C61	2u2	VT14	BCX31		
R24	330R	R62	4K7	C24	10n	C62	10u				
R25	330R	R63	4K7	C25	10n	C63	10u	IC1	CA3089E		
R26	2K7	R64	1K5	C26	10n	C64	470u	IC2	CA1310E		
R27	33R	R65	100K	C27	470p	C65	100u				
R28	18K	R66	390R	C28	10n	C66	470u	VC1	2-5p		
R29	18K	R67	10K	C29	10n	C67	100u	VC2	2-5p		
R30	27K	R68	10K	C30	10n	C68	10n	VC3	2-5p		
R31	330R	R69	4K7	C31	10n	C69	10n	VC4	2-5p		
R32	27K	R70	100R	C32	10n	C70	10n	VC5	2-5p		
R33	27K	R71	6K8	C33	10n	C71	10n				
R34	27K	R72	220R	C34	10u	C72	10n	VX1	BB104		
R35	33R	R73	2K2	C35	68p	C73	10n	VX2	BB104		
R36	10K	R74	5K6	C36	470p	C74	10n	VX3	BB104		
R37	3K3	R75	100R	C37	10n	C75	10n	VX4	BB104		
R38	10K	R76	15K	C38	8p	C76	100u	VX5	BB104		

**C58 not usually fitted. Added to convert to 75 uSec. de-emphasis. Alternatively for 75uSec. de-emphasis C58 is not fitted and C59 is 10n.*



T.48 V.H.F./F.M. STEREO RADIO TUNER

that the graph shows the voltages actually present at the socket, measured with a very high input impedance accurately calibrated digital voltmeter and due allowance should be made for the loading effect if any and inaccuracy of the meter used.



DISMANTLING

If it is necessary to dismantle your tuner—e.g. in order to gain access to the mains transformer to alter the voltage rating or to replace the mains fuse (this is an unlikely requirement—if the main fuse blows, there is a fault condition in the tuner) it should be undertaken in the following order:—

1. Remove the two side plates, by unscrewing the two securing screws on each side with an Allen key—this will reveal the fixing screws for the top panel.
2. Remove the top panel by unscrewing the two fixing screws with a small 'pozidriv' screwdriver. Care should be taken not to 'snag' the front brushed aluminium trim on the protruding screw heads on the steel front panel.
3. Remove the transformer plate by unscrewing the four fixing screws with a small 'pozidriv' screwdriver.

On no account should this dismantling procedure be undertaken unless the tuner is disconnected from the mains.

If it is required to only alter the mains voltage rating it is recommended that the base plate be left in place, tightly screwed up, as this plate and the transformer plate are used to ensure the squareness of the tuner assembly and if both are removed it will be necessary to 'square up' the tuner when fitting the base and transformer plates before tightening the screws.

AFC – Automatic frequency control should not be pressed while tuning (q.v.) but may be pressed after the stations are tuned in to guarantee that the exact tune will not be lost. It should not be used as an 'idle tuner' i.e. do not set approximate tune and then use the AFC button to tune you in exactly.

Squelch – when depressed kills all interstation noise when tuning. The tuner may then not respond to weak signals.

Mute – Silences the tuner, without having to switch off your amplifier, or turn down its volume control, by 'earthing' or 'grounding' the audio outputs of the tuner. If the tuner is used with amplifiers of other manufacture, it may be desirable to mute the tuner when another input – e.g. disc is selected to stop 'breakthrough' of the tuner output signal.

Filter and Stereo – The presence of a STEREO signal is indicated by illumination of the front panel lamp, provided that the stereo button is depressed, when the multiplex signal will be processed automatically by the tuner to produce the correct stereo outputs. If the signal is very weak causing the noise level to be so high as to make stereo listening objectionable then the stereo button should be relaxed causing any stereo signal to be made MONO. If the signal is fairly, but not excessively weak or the broadcast is noisy such that the multiplexing process makes the noise level just obtrusive then depressing the FILTER button may cut this noise down to an acceptable level. However, some loss of stereo separation may be noticed.

(ii) Station selection and tuning–controlled by the upper row of 6 circular interlocked push buttons. On tuners for the UK market, these are labelled BBC2, BBC3, BBC4, BBCL (for local) IBA1 and IBA2, these being the normally available transmissions to which it is suggested the tuner be set. On tuners for other markets, the buttons are labelled 1 to 6.

Your dealer may have set the six pre-set positions–if not you may set them as follows:–

With the AFC button relaxed, press the extreme left hand circular push button (marked 1 or BBC2) and then rotate the push button until the required transmission is heard through your loudspeakers. Depending upon the initial position of the control and the frequency required, this may entail several rotations of the control as it takes approximately 60 revolutions of the control to cover the frequency band from 88 to 108 MHz. Now rotate the button slightly in each direction until the interstation noise is heard–the correct tuning point is halfway between the two noisy positions. Repeat this procedure for the other five buttons and then press the AFC button. This procedure is accurate enough for normal purposes, the AFC circuitry ensuring that exact tuning is held. If, however, you wish to tune absolutely accurately, two sockets are provided on the rear panel to which a standard multimeter, such as an AVO 8, may be connected. The lower socket gives a DC voltage output positive with respect to chassis according to the graph printed opposite indicating to what frequency the front end is tuned. The upper socket gives a DC voltage output positive with respect to chassis, proportional to signal strength. Thus it is merely necessary to tune for maximum voltage from this socket. When measuring the voltage at the lower socket, please note

INSTALLATION

Examine your tuner to ensure that it is in a new state and that all the controls appear to operate mechanically in the correct manner. Confirm from the rating label underneath your tuner that it is supplied at the correct mains voltage for your supply.

You should receive with your tuner an owners registration card and a sealed polythene bag containing four cardboard washers. If, when they are placed together, your A48 amplifier and T48 tuner are not exactly the same height, or one of them appears to slope, this condition may be rectified by interposing the requisite number of cardboard washers between the base plate and chassis of whichever item of eqiupment is the lower. To remove the base plate, turn your tuner (or amplifier) upside down and unscrew the four fixing screws with a 'pozidriv' screwdriver. Place the required number of cardboard washers on top of the hardboard washers and replace the base plate, screwing up tightly.

CONNECTIONS

(i) Mains – Approximately 25 inches (70cms) of three core cable is supplied terminated with a three pin plug for connection to the mains outlet socket of your A48 Series II amplifier. The colour coding of the mains lead is BROWN–LIVE, BLUE–NEUTRAL, GREEN/YELLOW–EARTH. It is possible to alter the internal connections of your tuner to operate on other mains voltages–if this is necessary the work must only be entrusted to a qualified engineer. A mains outlet socket is fitted to provide power for ancillary equipment such as a turntable, as the amplifier outlet will be 'blocked' by the tuner. A mains fuse is located on the transformer mounting plate, access to the fuse being achieved by dismantling the tuner. This fuse protects the tuner, it is not in circuit with the outlet socket.

(ii) AERIAL – A 75 ohm or 300 ohm aerial connection should be made to the appropriate ANTENNA input – 75 ohm to the coaxial socket, 300 ohm to the twin terminal. A suitable VHF aerial MUST be used if correct STEREO (and in some areas even correct mono) operation is to be achieved. Two feet of wire down the back of the shelf may work, but why waste a precision tuner on a useless aerial, and remember, the cost of a correctly installed aerial is only a very small proportion of the total cost of your system.

(iii) OUTPUTS – Approximately 8 inches (20cms) of twin coaxial cable is supplied terminated in a 5 pin DIN plug for connection to the RADIO input of your A48 amplifier. Two 4mm sockets at the rear allow the use of a standard multimeter to monitor

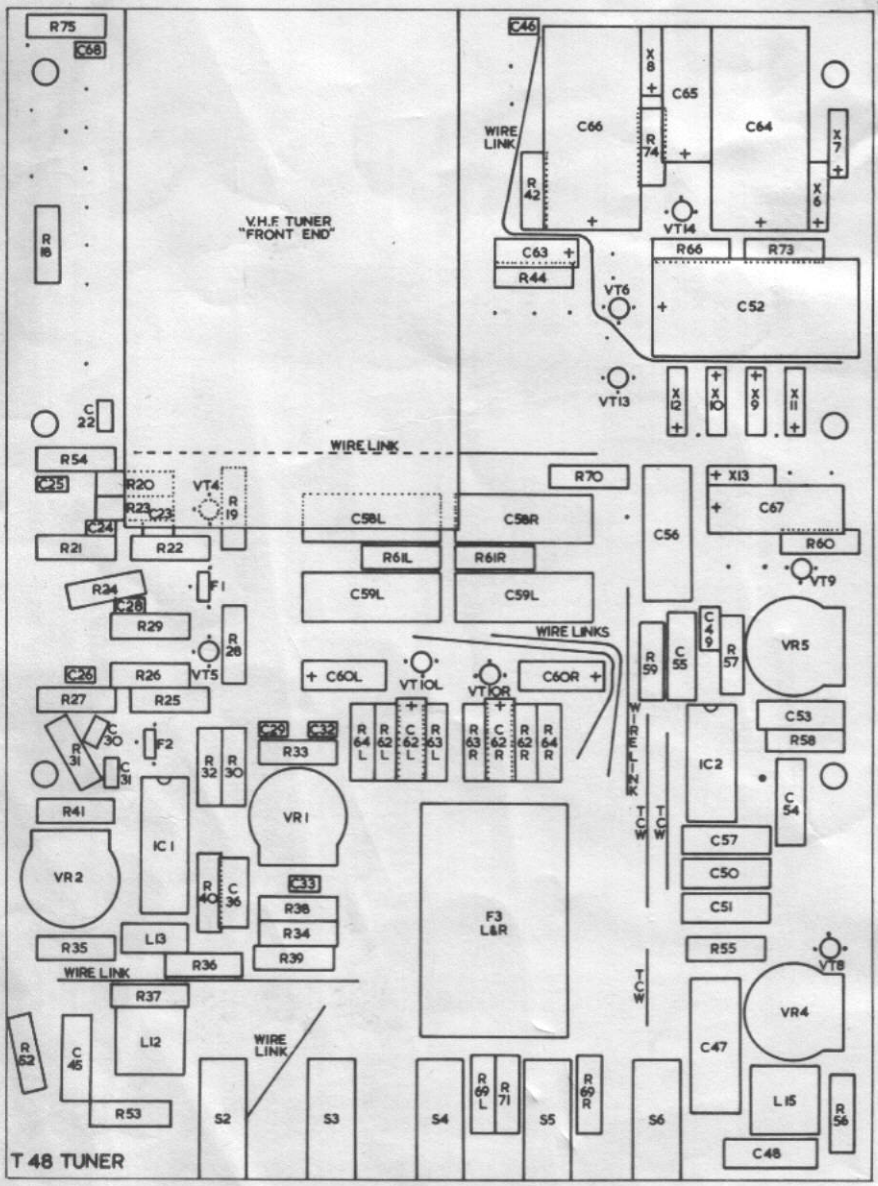
(a) Signal strength (for precise tuning) marked Sig V (150uA or 1.5 volt maximum).

(b) Tuning voltage and then to co-relate this to tuning frequency (22 volt maximum).

OPERATION

Control facilities are provided by means of 11 push buttons on the front panel, offering the following:–

(i) Tuner function–controlled by the lower row of 5 rectangular push buttons, which are of independent push on, push off operation.



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