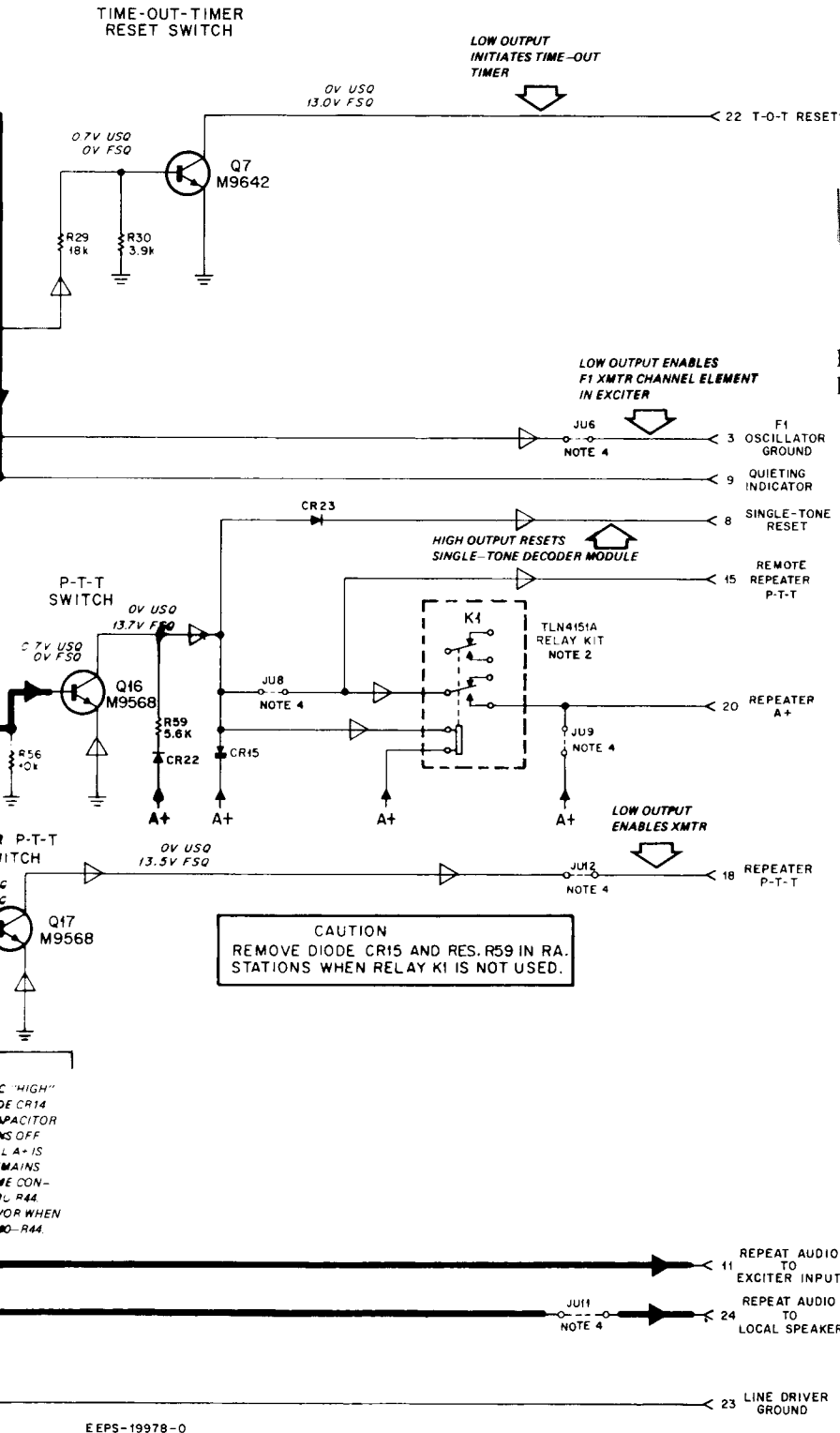


SQUELCH GATE MODULE

MODEL TRN6689A



FUNCTION

Measure received noise levels and controls transmitter keying.

LEGEND:

START

= CIRCUIT THEORY MOST EASILY UNDERSTOOD
BY BEGINNING AT THIS POINT AND FOLLOWING
SIGNAL FLOW.



= THEORY OF OPERATION DATA



= MAINTENANCE DATA



= PRIMARY SIGNAL FLOW

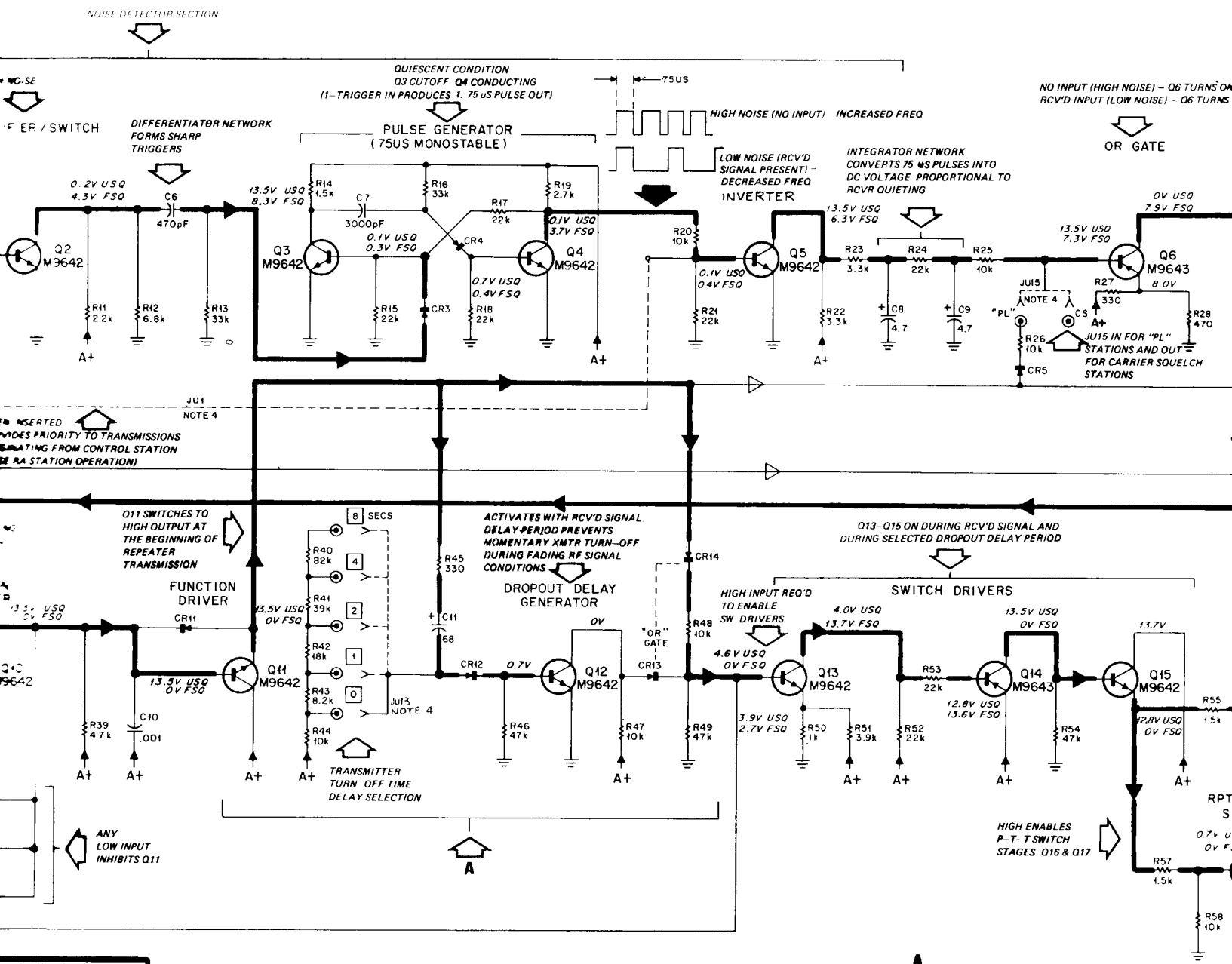


= SECONDARY SIGNAL FLOW

PARTS LIST SHOWN ON BACK

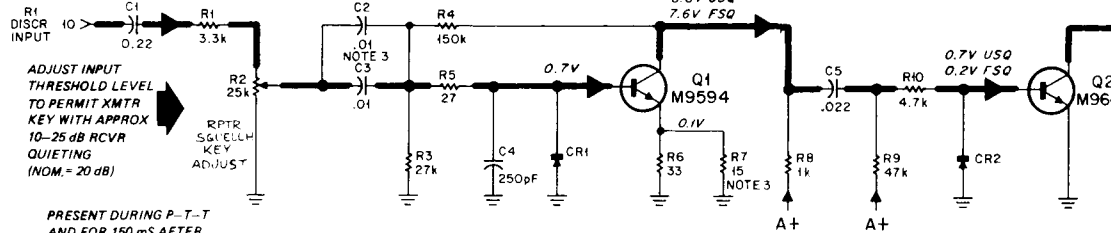
68P81030E08-A

5/30/80-UP



START

NO INCOMING RCVR
SIGNAL = HIGH NOISE
PRESENT OF RCVD
SIGNAL = LOW NOISE



LIMITS HIGH NOISE
AMPLITUDE

SQUELCH LIMITER

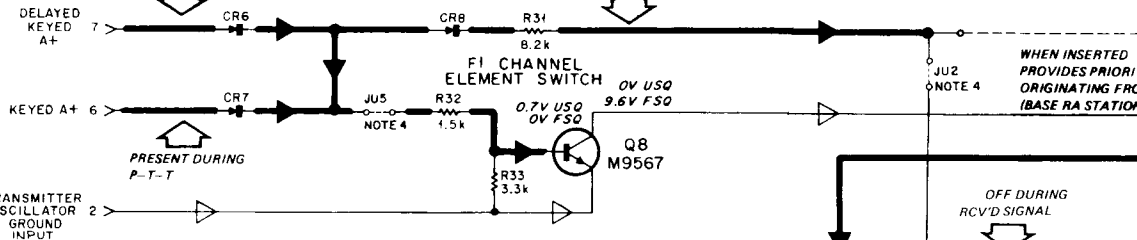
DURING HIGH NOISE
INPUT, Q2 IS
SATURATED

AMPLIFIER / SW

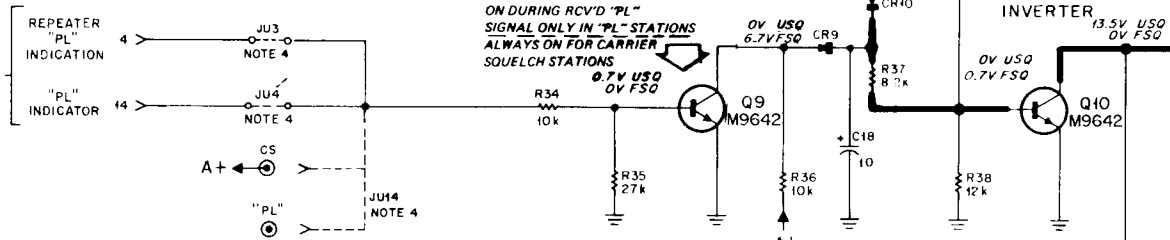
ADJUST INPUT
THRESHOLD LEVEL
TO PERMIT XMTR
KEY WITH APPROX
10-25 dB RCVR
QUIETING
(NOM. = 20 dB)

PRESENT DURING P-T-T
AND FOR 150 ms AFTER
UNKEYING

ON WHEN XMTR IS KEYED



SQUELCH GATE MODULE
WILL REMAIN ENABLED
WHEN A "PL" TONE IS PRESENT,
AND JU15 IS INSERTED,
EVEN DURING FADING
RF SIGNAL CONDITIONS.
WHEN "PL" TONE IS LOST,
HOWEVER, THE MODULE
IS INHIBITED AND
XMTR TURN-OFF WILL
OCCUR.



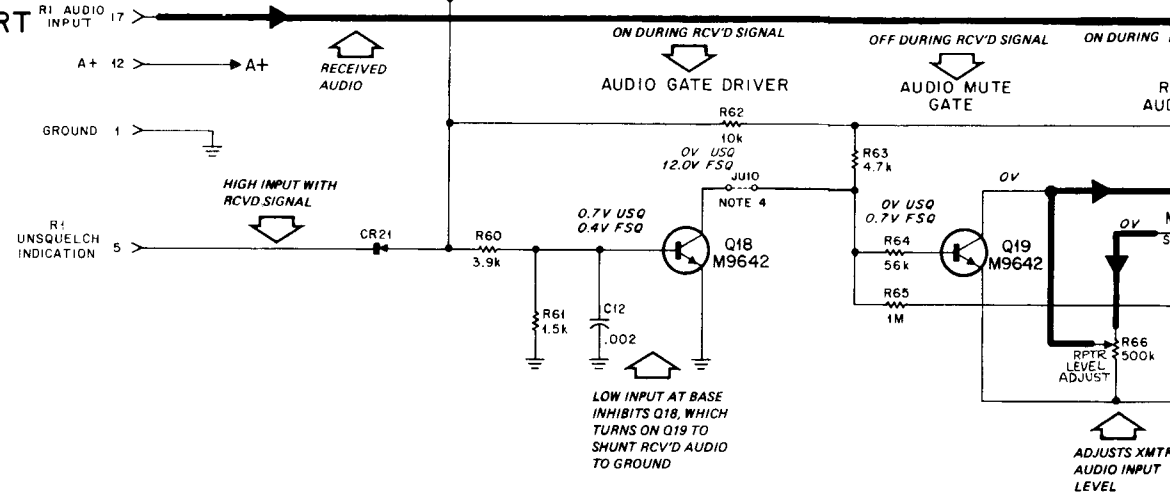
LOCAL LINE P-T-T
INPUTS HAVE
PRIORITY OVER
REPEATER
OPERATION

FUNCTIONAL WITH
SINGLE TONE DECODER
ENCODER APPLICATIONS

LOW INPUT PRESENT WITH
ABSENCE OF SINGLE-TONE
INHIBITS SQUELCH GATE
MODULE

HIGH IS PRESENT WITH
SINGLE-TONE INPUT
WHICH ENABLES THE
SQUELCH GATE MODULE
TO KEY THE XMTR

START



ON DURING RCVD SIGNAL

OFF DURING RCVD SIGNAL

ON DURING A

AUDIO GATE DRIVER

AUDIO MUTE

AUD

HIGH INPUT WITH
RCVD SIGNAL

LOW INPUT AT BASE
INHIBITS Q18, WHICH
TURNS ON Q19 TO
SHUNT RCVD AUDIO
TO GROUND

ADJUSTS XMTR
AUDIO INPUT
LEVEL

NOTES:

1. UNLESS OTHERWISE STATED:
RESISTOR VALUES ARE IN OHMS (K = 1000)
CAPACITOR VALUES ARE IN MICROFARADS.
2. RELAY KIT IS AN OPTIONAL ACCESSORY ITEM. REFER TO RELAY APPLICATION CHART FOR CR15, JU8 AND JU9 USAGE, WITH RELAY.
3. USE OF THIS RESISTOR AND CAPACITOR IS DETERMINED AT FACTORY.
4. REFER TO JUMPER TABLE

JUMPER TABLE

APPLICATION	JU1	JU2	JU3	JU4	JU5	JU6	JU7	JU8	JU9	JU10	JU11	JU12	JU13	JU14	JU15
LINE CONTROL BASE	OUT	OUT	IN	OUT	OUT	OUT	IN	IN	IN	OUT	OUT	OUT	SELECTED DELAY	IN	OUT
REPEATER (RT) STATION WITHOUT WIRELINE CONTROL	OUT	OUT	IN	IN "PL"	IN	IN	IN	IN	IN	IN	IN	IN	SELECTED DELAY	IN "CS"	IN "PL"
REPEATER (RT) STATION WITH WIRELINE CONTROL	OUT	OUT	IN	IN "PL"	NOTE 6	NOTE 6	IN	IN	IN	IN	OUT	IN	SELECTED DELAY	IN "CS"	IN "PL"
BASE (RA) STATION	IN	OUT	IN	IN "PL"	IN	IN	IN	*	*	OUT	OUT	OUT	SELECTED DELAY	IN "CS"	IN "PL"
REPEATER (RA) STATION	OUT	OUT	IN	IN "PL"	IN	IN	OUT	*	*	OUT	OUT	OUT	SELECTED DELAY	IN "CS"	IN "PL"

5. VOLTAGE READINGS SHOWN ARE FOR TWO CONDITIONS:
USQ - UNSQUELCHED
FSQ - FULLY SQUELCHED

6. JUMPERS JU5 & JU6 ARE USED IN DC-CONTROLLED "PL" REPEATER STATIONS
WHEN SUCH STATIONS CONTAIN AN UNSUFFIXED DC TRANSFER MODULE.

*RELAY APPLICATION CHART

TLN4151A RELAY KIT	DIODE CR15	JU8	JU9	R59
NOT USED	OUT	IN	IN	OUT
USED	IN	OUT	OUT	IN

