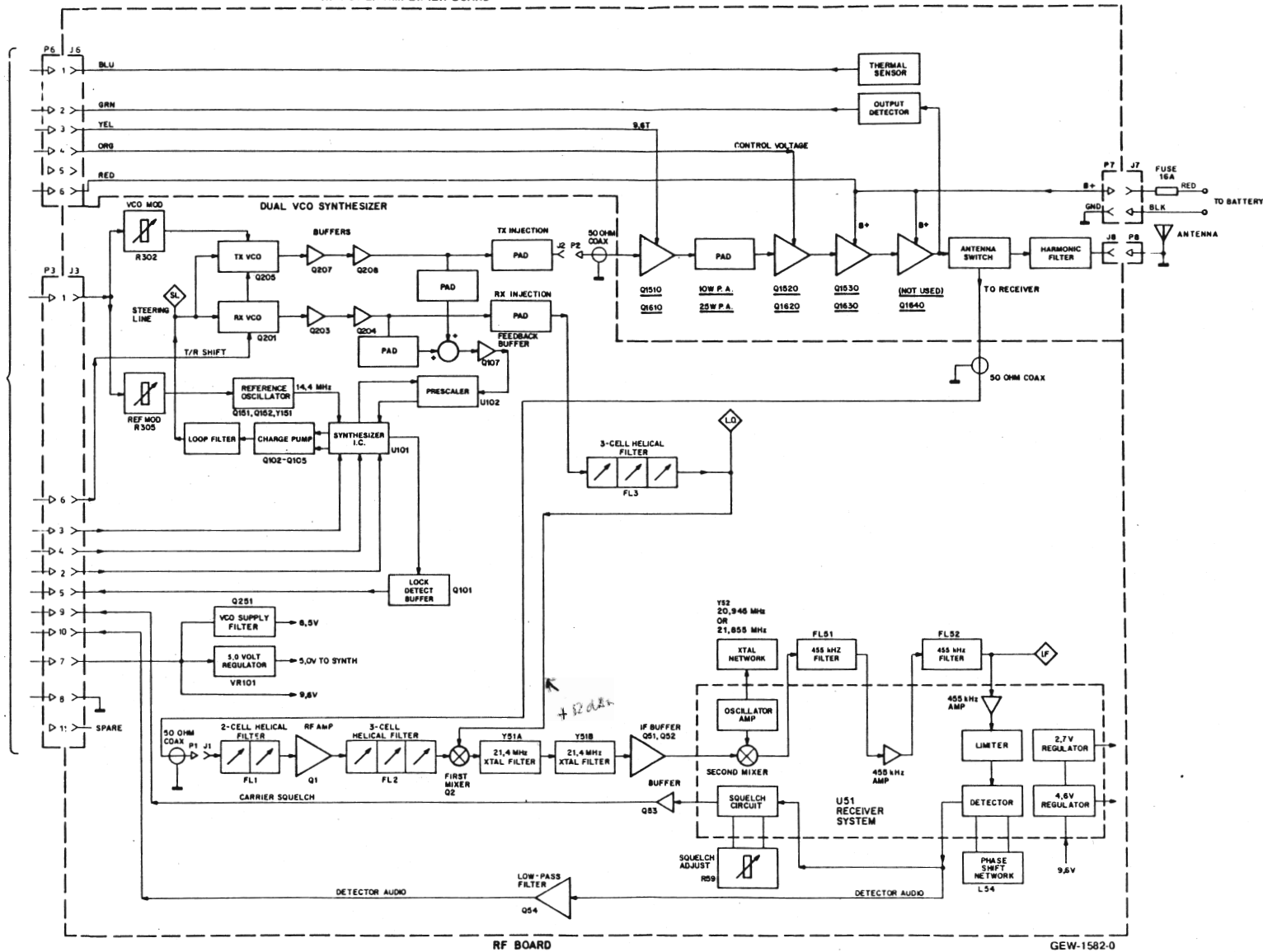


RF POWER AMPLIFIER BOARD

FROM COMMAND BOARD



RF BOARD

GEW-1582-0

NOTES:

1. SELECT 5 CIRCUIT INCLUDED ONLY ON GLN6628
2. EMERGENCY CIRCUITS INCLUDED ONLY ON GLN6628
3. HUB SWITCH FOR GMN6122 ONLY
4. THE VOLUME CONTROL, R1023, IS LOCATED IN THE CONTROL HEAD. IT IS REPEATED ON THE COMMAND BOARD TO CLEARLY SHOW ITS FUNCTION IN THE RECEIVER AUDIO CIRCUITS.
5. ○ JUMPER INSERTED.
○-○ JUMPER DEPENDS ON MODEL TYPE AND OPTIONS ORDERED.
○ JUMPER NOT INSERTED.

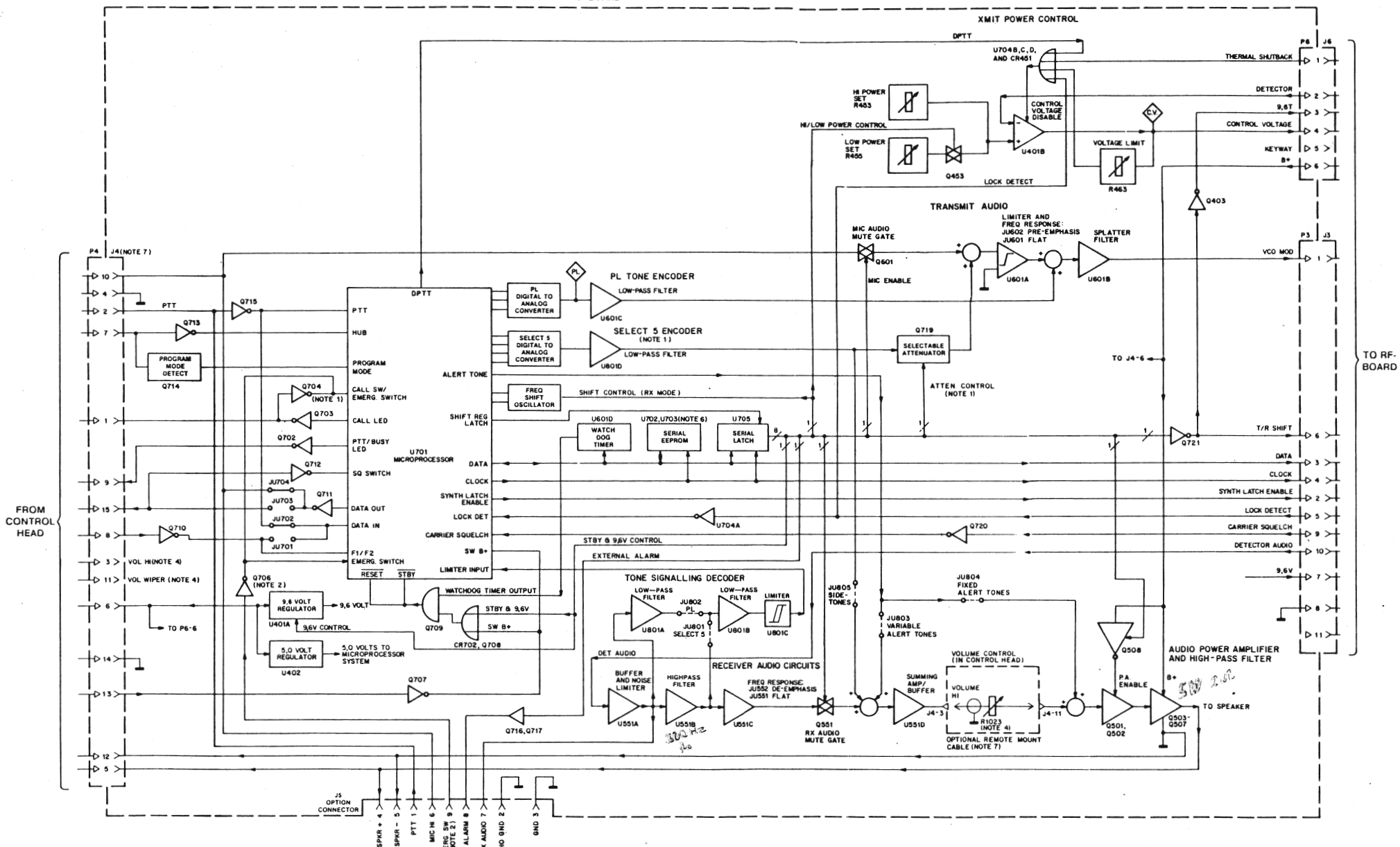
◇ TEST POINT

6. PART TYPE AND USAGE DEPENDS ON RADIO TYPE AND OPTIONS.
7. AN OPTIONAL REMOTE MOUNT CABLE CAN BE USED TO CONNECT THE CONTROL HEAD AND THE RADIO TOGETHER.
8. NOT IN ALL VERSIONS.

EZ MODELS WITH OPTIONAL CONTROL HEADS
G1031, G1032 & G1033 UHF
FUNCTIONAL BLOCK DIAGRAM
RF POWER AMPLIFIER BOARD - RF BOARD

D405.123

COMMAND BOARD



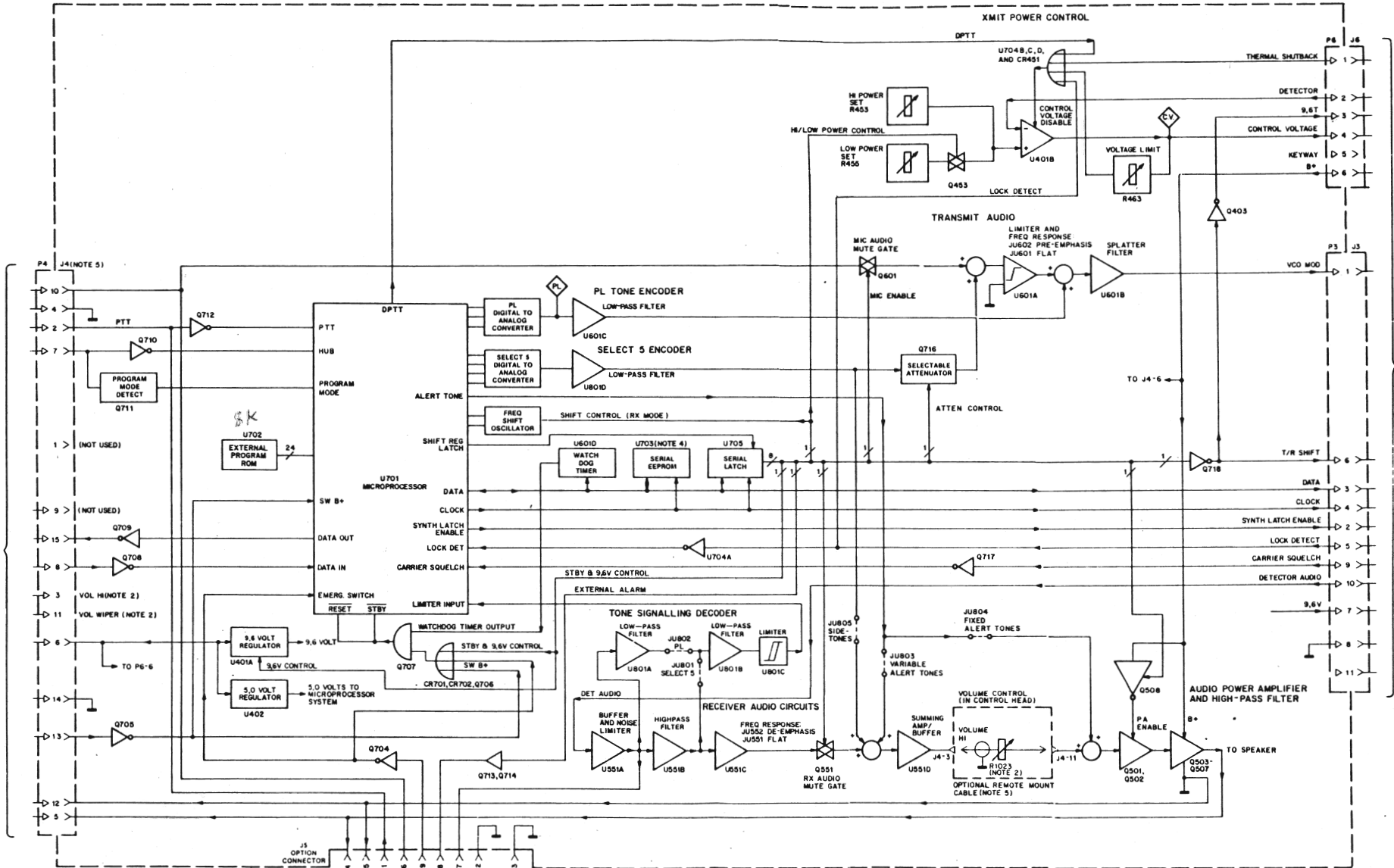
- NOTES:
1. SELECT 5 CIRCUIT INCLUDED ONLY ON GLN6628
 2. EMERGENCY CIRCUITS INCLUDED ONLY ON GLN6628
 3. HUB SWITCH FOR GMN6122 ONLY
 4. THE VOLUME CONTROL, R1023, IS LOCATED IN THE CONTROL HEAD. IT IS REPEATED ON THE COMMAND BOARD TO CLEARLY SHOW ITS FUNCTION IN THE RECEIVER AUDIO CIRCUITS.

5. ○ — ○ JUMPER INSERTED.
6. ○ — ○ JUMPER DEPENDS ON MODEL TYPE AND OPTIONS ORDERED.
7. ○ — ○ JUMPER NOT INSERTED
8. PART TYPE AND USAGE DEPENDS ON RADIO TYPE AND OPTIONS.
9. AN OPTIONAL REMOTE MOUNT CABLE CAN BE USED TO CONNECT THE CONTROL HEAD AND THE RADIO TOGETHER.
10. NOT IN ALL VERSIONS.

EZ MODELS WITH OPTIONAL CONTROL HEADS
 G1031, G1032 & G1033
 FUNCTIONAL BLOCK DIAGRAM
 COMMAND BOARD

COMMAND BOARD

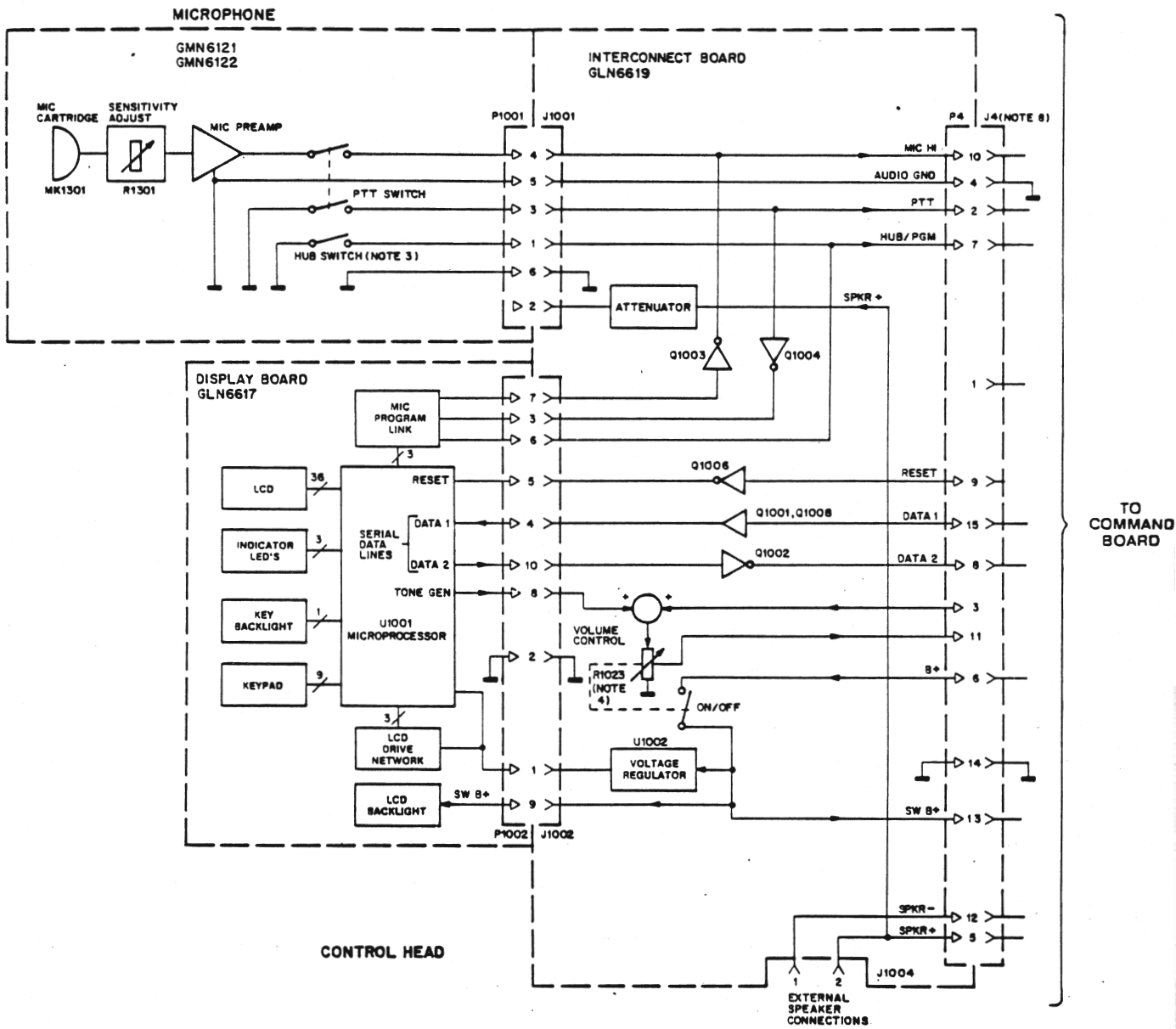
*Programmer's
highlighted
1200
Base
FROM
CONTROL
HEAD*



TO RF-BOARD

- NOTES:
- HUB SWITCH FOR GMN6122 ONLY
 - THE VOLUME CONTROL, R1023, IS LOCATED IN THE CONTROL HEAD. IT IS REPEATED ON THE COMMAND BOARD TO CLEARLY SHOW ITS FUNCTION IN THE RECEIVER AUDIO CIRCUITS.
 - JUMPER INSERTED.
 - JUMPER DEPENDS ON MODEL TYPE AND OPTIONS ORDERED.
 - ○ JUMPER NOT INSERTED.
 - PART TYPE AND USAGE DEPENDS ON RADIO TYPE AND OPTIONS.
 - AN OPTIONAL REMOTE MOUNT CABLE CAN BE USED TO CONNECT THE CONTROL HEAD AND THE RADIO TOGETHER.
 - NOT IN ALL VERSIONS.

EV MODELS WITH CONTROL HEAD G1053
FUNCTIONAL BLOCK DIAGRAM
COMMAND BOARD

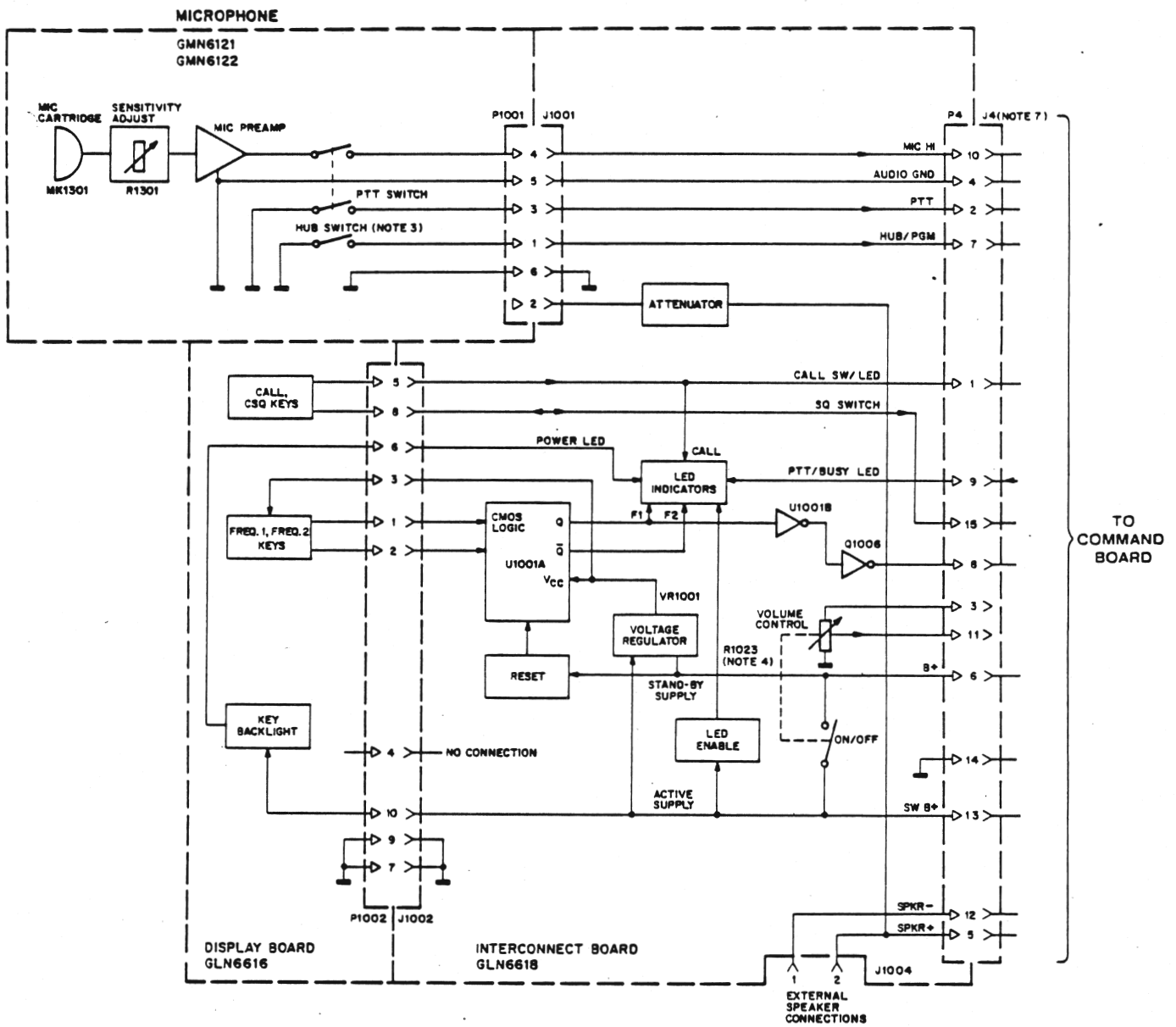


NOTES:

1. SELECT 5 CIRCUITS INCLUDED ONLY ON GLN6628
2. EMERGENCY CIRCUITS INCLUDED ONLY ON GLN6628
3. HUB SWITCH FOR GMN6122 ONLY
4. THE VOLUME CONTROL, R1023, IS LOCATED IN THE CONTROL HEAD. IT IS REPEATED ON THE COMMAND BOARD TO CLEARLY SHOW ITS FUNCTION IN THE RECEIVER AUDIO CIRCUITS.
5. THESE LINES HAVE NO FUNCTION WHEN USED IN THIS CONFIGURATION.
6. JUMPER INSERTED.
7. JUMPER DEPENDS ON MODEL TYPE AND OPTIONS ORDERED.
8. JUMPER NOT INSERTED.
9. PART TYPE AND USAGE DEPENDS ON RADIO TYPE AND OPTIONS.
8. AN OPTIONAL REMOTE MOUNT CABLE CAN BE USED TO CONNECT THE CONTROL HEAD AND THE RADIO TOGETHER
9. NOT ALL VERSIONS (VHF ONLY)

EZ MODELS WITH LCD CONTROL HEADS
G1041, G1042 & G1043
FUNCTIONAL BLOCK DIAGRAM
CONTROL HEAD

D405.113



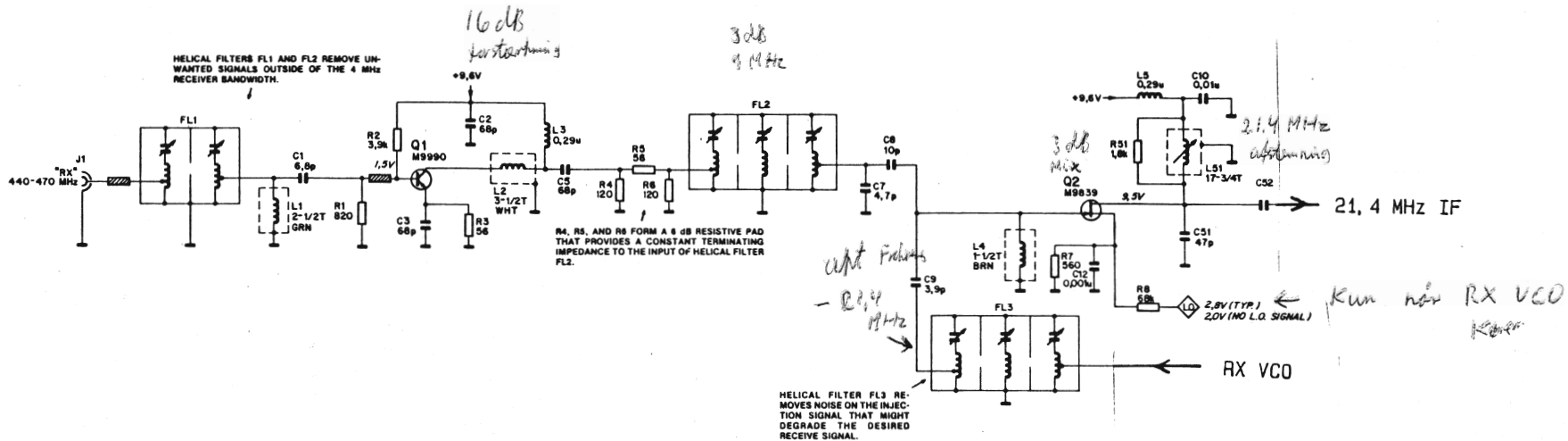
CONTROL HEAD

NOTES:

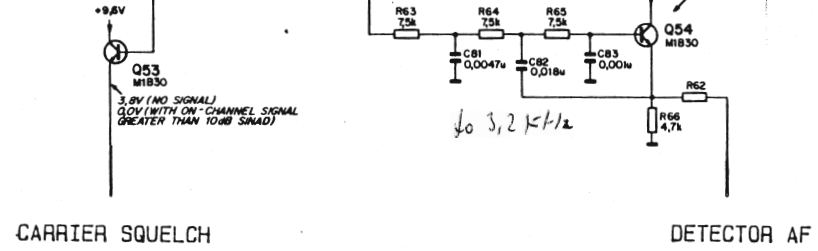
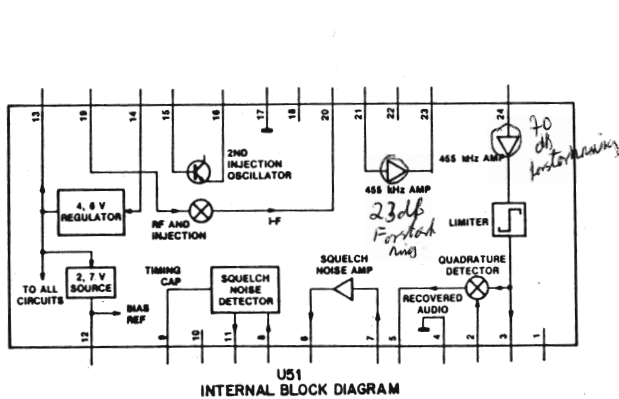
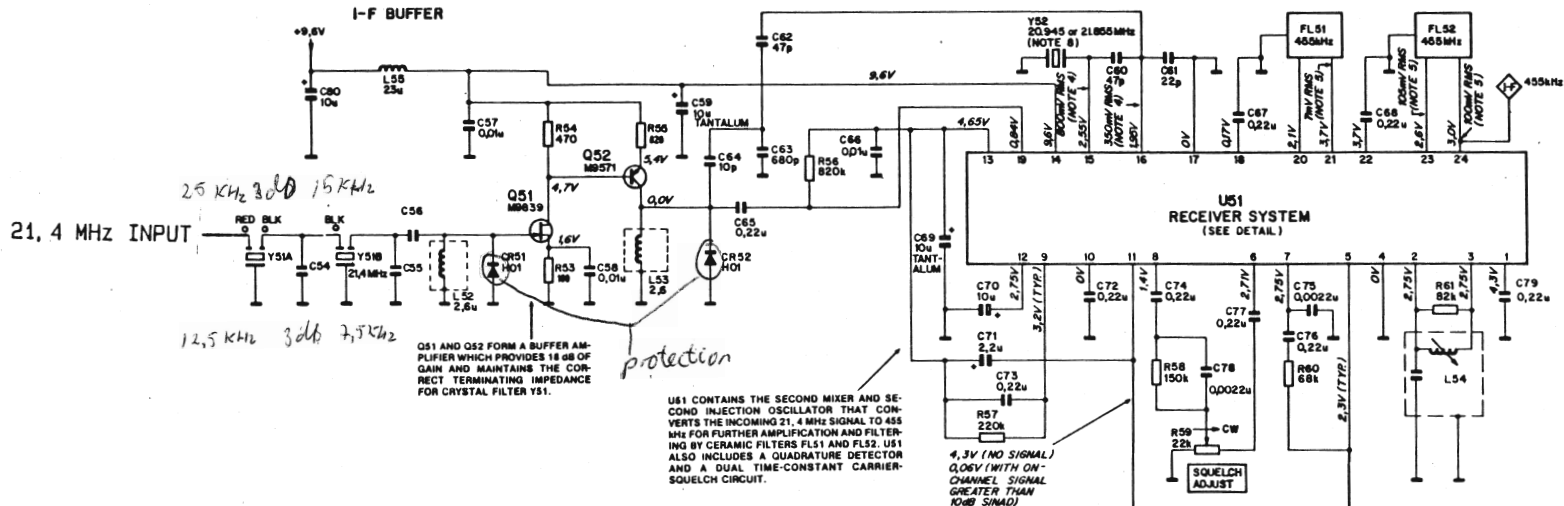
1. SELECT 5 CIRCUIT INCLUDED ONLY ON GLN6628
2. EMERGENCY CIRCUITS INCLUDED ONLY ON GLN6628
3. HUB SWITCH FOR GMN6122 ONLY
4. THE VOLUME CONTROL, R1023, IS LOCATED IN THE CONTROL HEAD. IT IS REPEATED ON THE COMMAND BOARD TO CLEARLY SHOW ITS FUNCTION IN THE RECEIVER AUDIO CIRCUITS.
5. ○ ○ JUMPER INSERTED.
○ - - ○ JUMPER DEPENDS ON MODEL TYPE AND OPTIONS ORDERED.
○ ○ JUMPER NOT INSERTED.
6. PART TYPE AND USAGE DEPENDS ON RADIO TYPE AND OPTIONS.
7. AN OPTIONAL REMOTE MOUNT CABLE CAN BE USED TO CONNECT THE CONTROL HEAD AND THE RADIO TOGETHER.
8. NOT IN ALL VERSIONS.

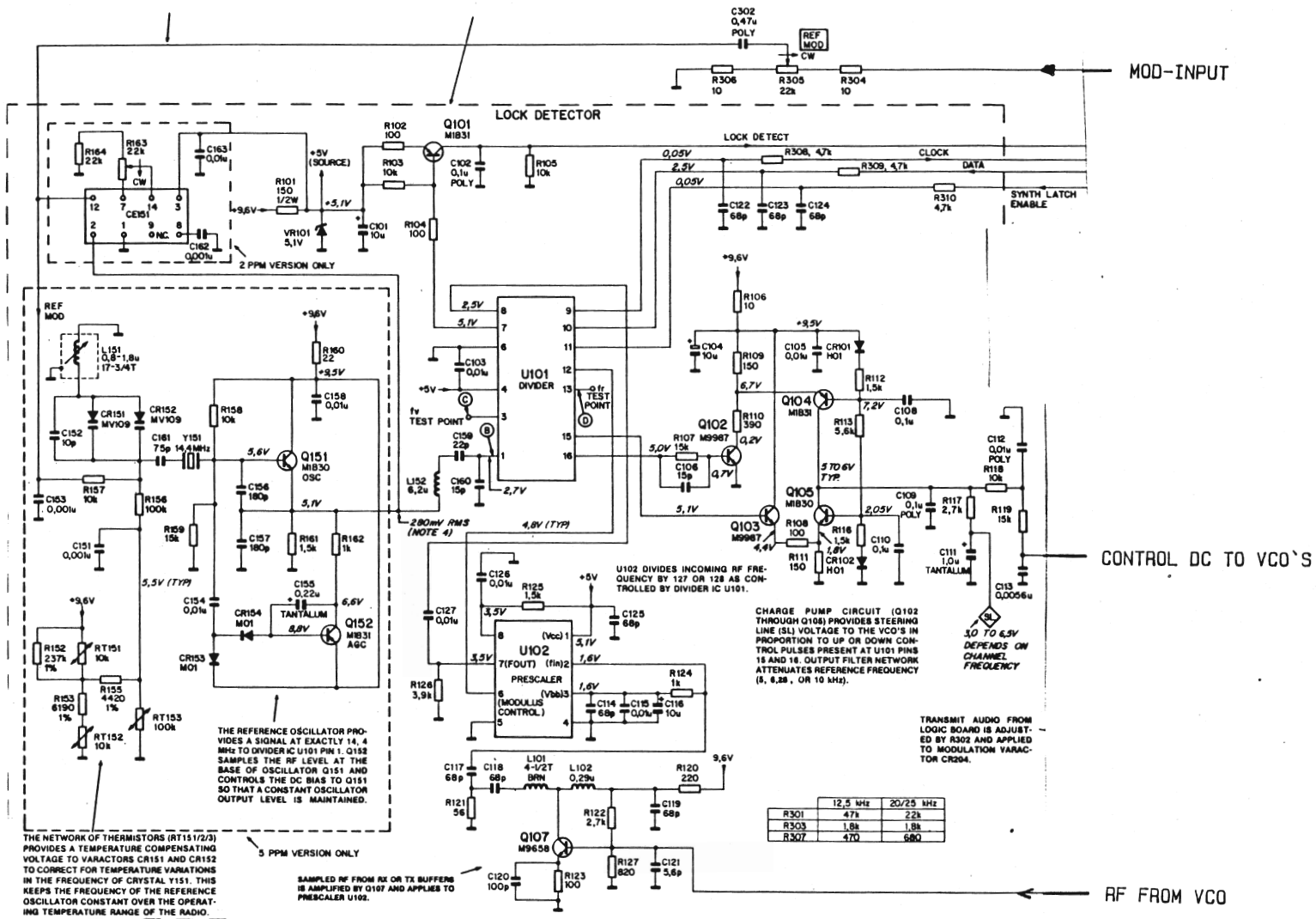
EZ MODELS WITH OPTIONAL CONTROL HEADS
 G1031, G1032 & G1033
 FUNCTIONAL BLOCK DIAGRAM
 CONTROL HEAD

D405.121



QGM 5500 RX FRONT-END





MOD-INPUT

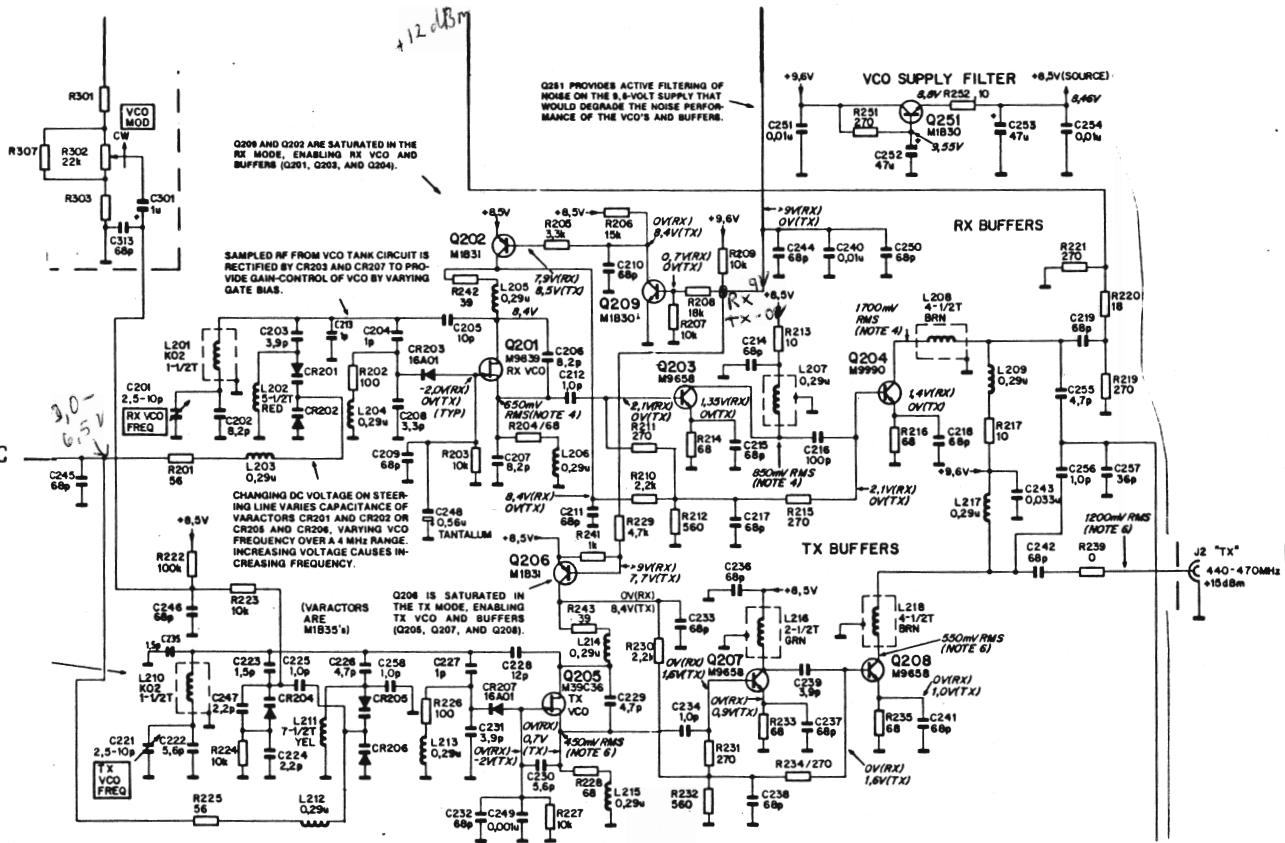
CONTROL DC TO VCO'S

RF FROM VCO

MOD INPUT

TO RX MIXER

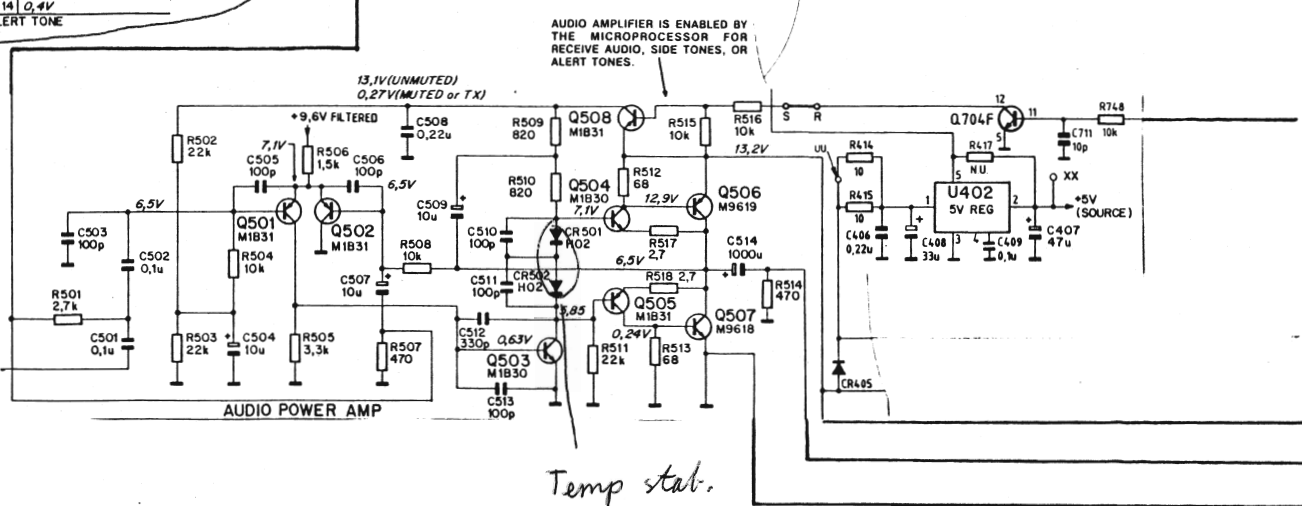
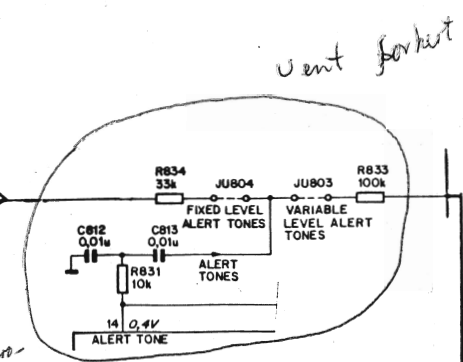
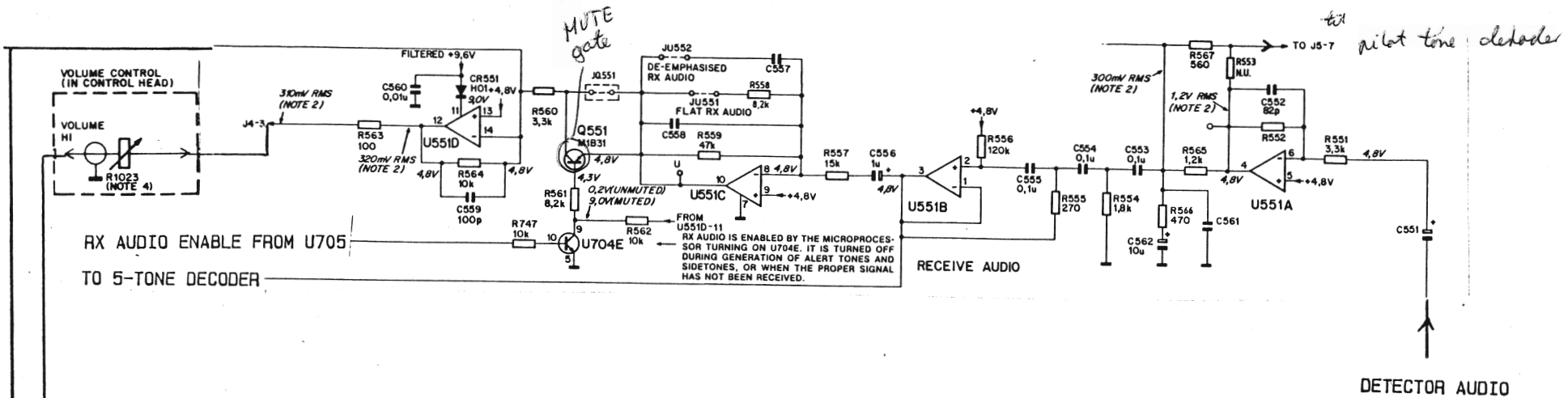
T/R SHIFT



VCO CONTROL DC

TO N-DIVIDER

CQM 5500 RX - TX VCO



PA ENABLE FROM U705

B + 13.2V
TO SPEAKER HI
TO SPEAKER LO

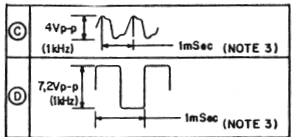
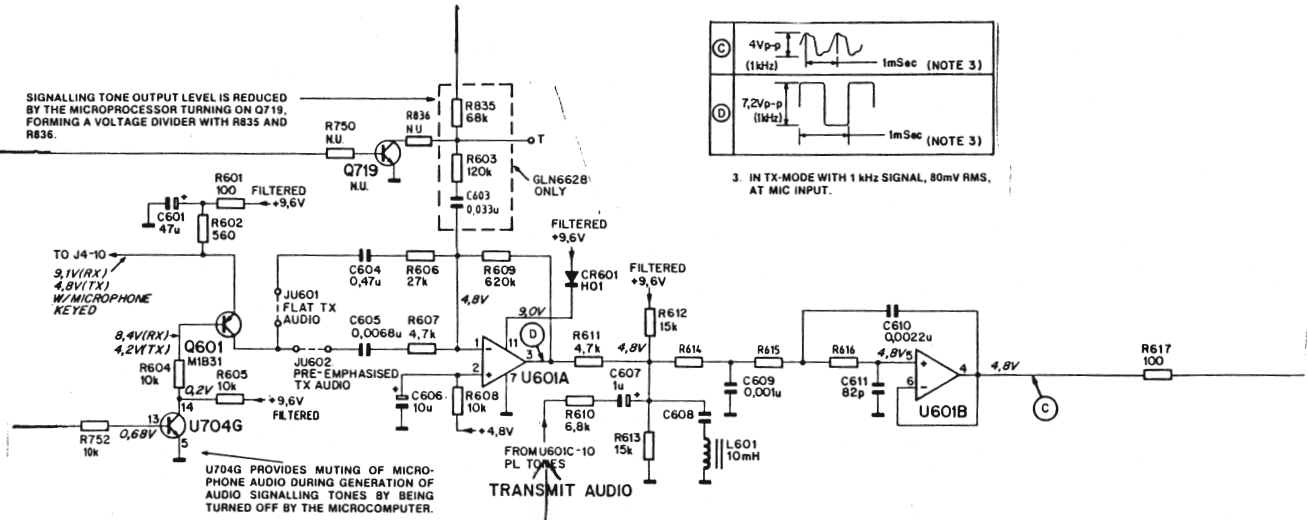
5W
2Ω

ENCODE

TONE ~~DECODE~~

5-TONE ENABLE
FROM U705

MIC ENABLE
FROM U705

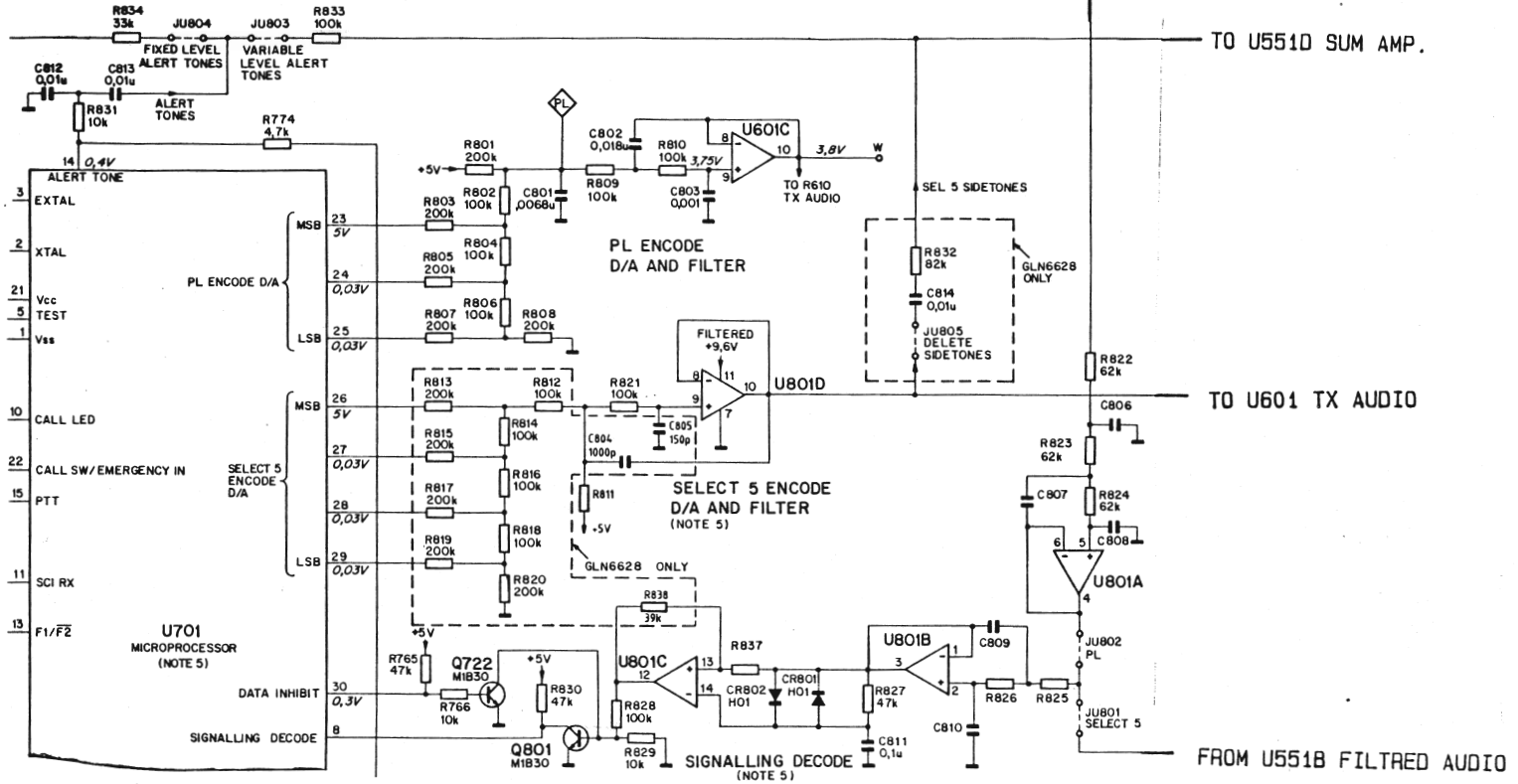


U704G PROVIDES MUTING OF MICROPHONE AUDIO DURING GENERATION OF AUDIO SIGNALLING TONES BY BEING TURNED OFF BY THE MICROCOMPUTER.

Pilot tone
ind

AUDIO TO AF-PA

FROM U551A AUDIO



TO U551D SUM AMP.

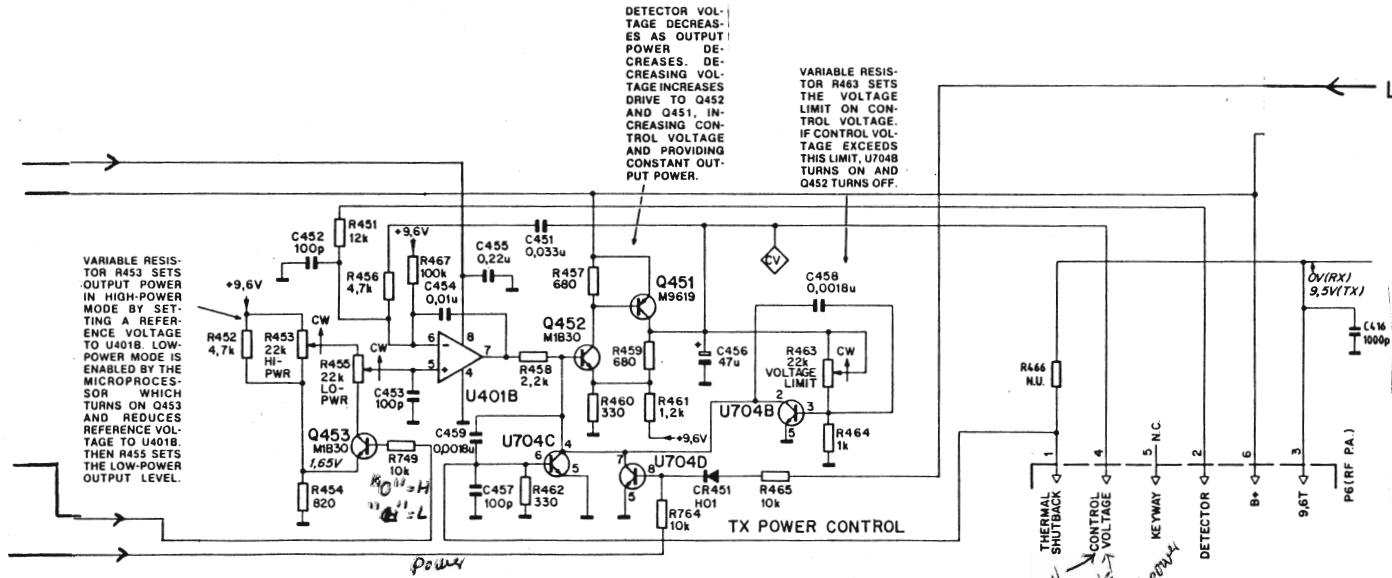
TO U601 TX AUDIO

FROM U551B FILTERED AUDIO

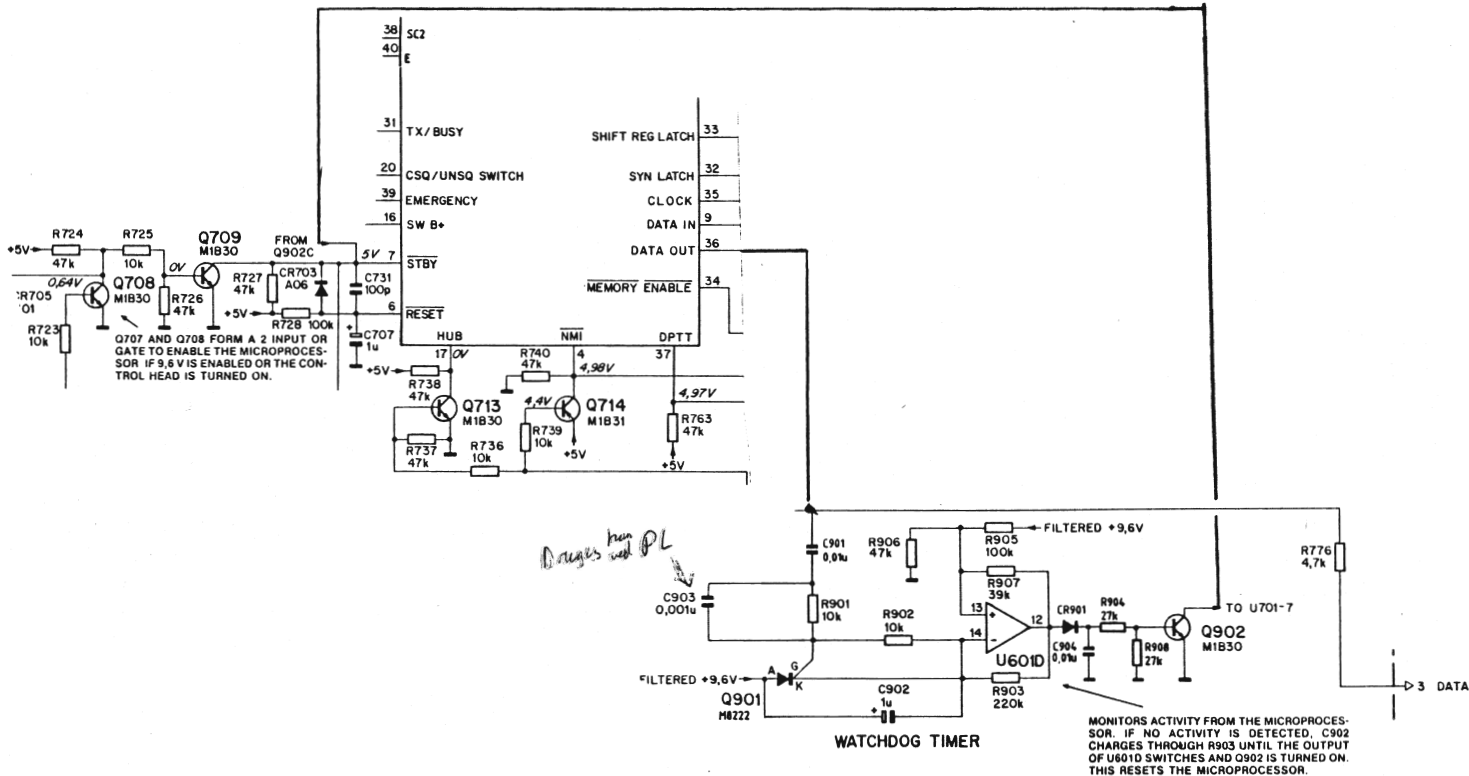
HI/LO POWER CONTROL
FROM U705

DELAYED PTT
FROM uP

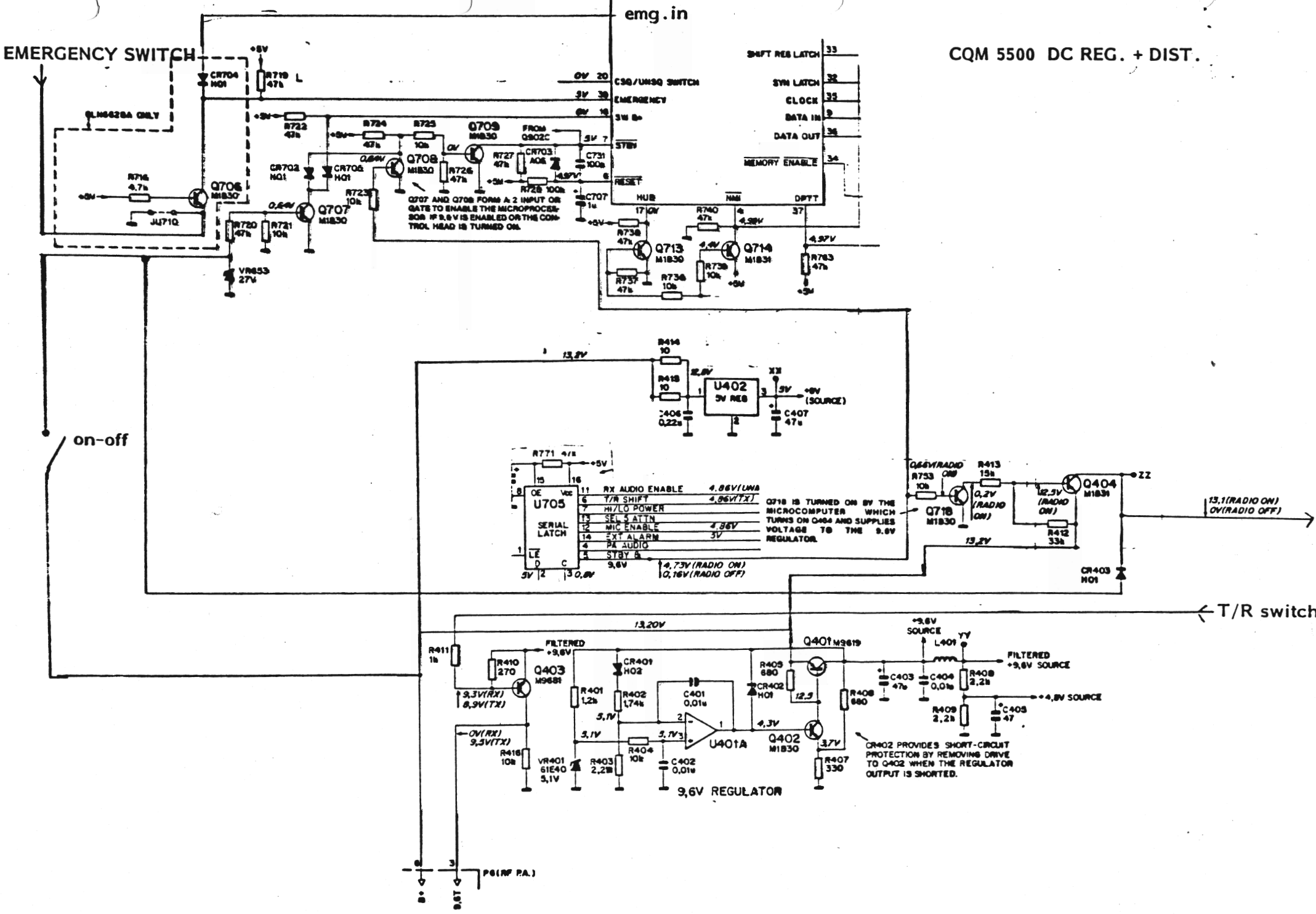
FROM uP

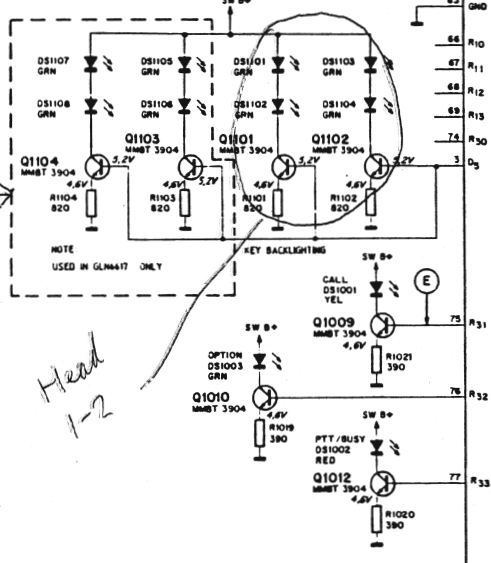
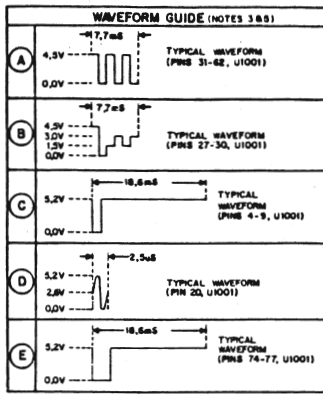


3.0V
8.7V
HIGH TX POWER

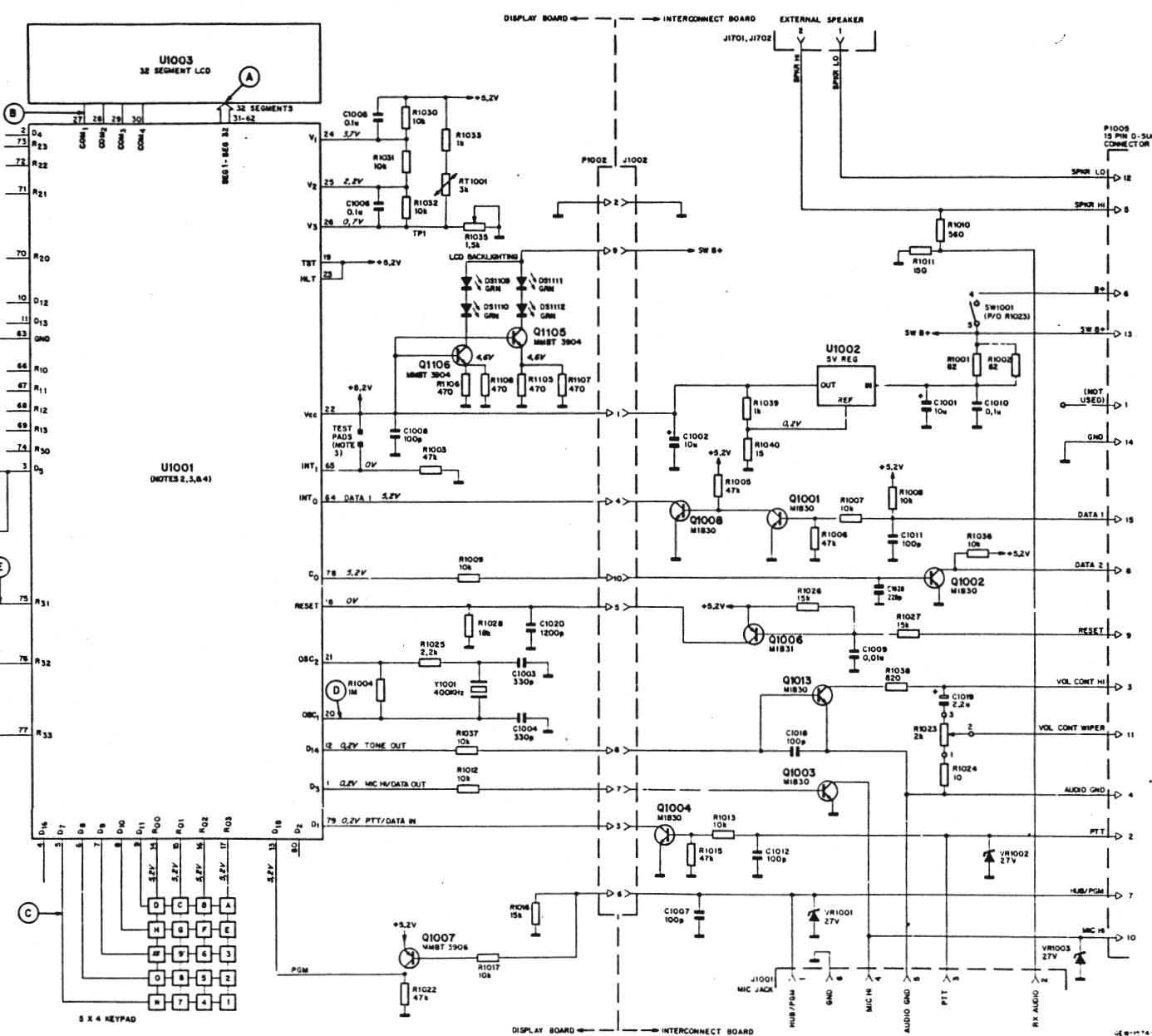


CQM 5500 DC REG. + DIST.





- NOTES:
- UNLESS OTHERWISE SPECIFIED, ALL RESISTOR VALUES ARE IN OHMS.
 - ALL KEYS SHOWN ARE MOMENTARY.
 - DC VOLTAGES ARE SHOWN AFTER THE TEST PADS ARE MOMENTARILY SHORTED WITH NO RADIO ATTACHED.
 - THE VOLTAGES ON PINS 24, 25, 26 OF U1001 ARE WITH THE VOLTAGE FROM PIN 22 TO PIN 26 ADJUSTED TO 4.5V AT 25 C BY R1035.
 - ALL WAVEFORMS ARE DC COUPLED.
 - FOR PROGRAMMING, THE MIC HI AND PTT BECOME DATA LINES.

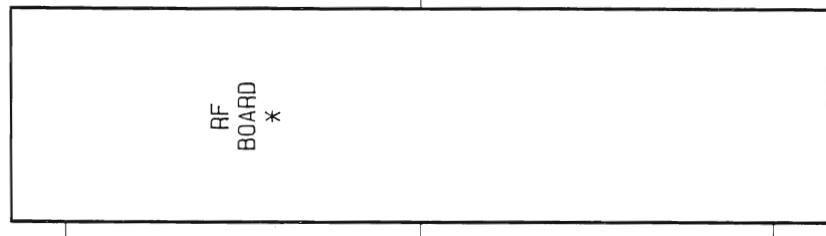
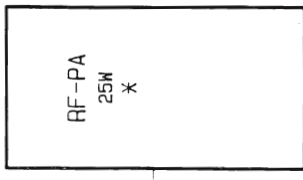
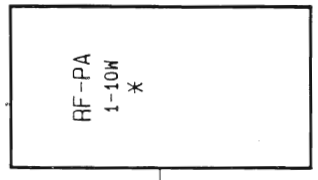
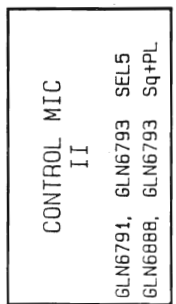
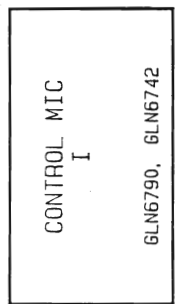
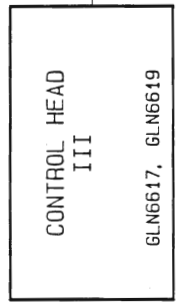
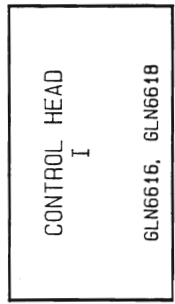
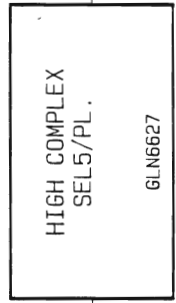
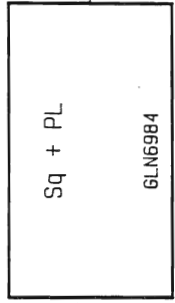


GLN6960 LCD CONTROL HEAD DISPLAY BOARD
 GLN6617 LCD CONTROL HEAD DISPLAY BOARD
 GLN6619 INTERCONNECT BOARD

CQM5500 UHF MODULE OVERVIEW.

GLE6141	RF BOARD 25 KHz	CHANNEL SPACING	403-433 MHz 5ppm
GLE6142	RF BOARD 25 KHz	CHANNEL SPACING	438-470MHz 5ppm
GLE6144	RF BOARD 25 KHz	CHANNEL SPACING	Tx438-450MHz Rx420-433 5ppm
GLE6145	RF BOARD 25 KHz	CHANNEL SPACING	Tx420-433MHz Rx438-450 5ppm
GLE6147	RF BOARD 25 KHz	CHANNEL SPACING	403-433MHz 2ppm
GLE6148	RF BOARD 25 KHz	CHANNEL SPACING	438-470MHz 2ppm
GLE6150	RF BOARD 25 KHz	CHANNEL SPACING	Tx420-433MHz Rx438-450 2ppm
GLE6151	RF BOARD 25 KHz	CHANNEL SPACING	Tx438-450MHz Rx420-433 2ppm
GLE6153	RF BOARD 12,5 KHz	CHANNEL SPACING	403-433MHz 2ppm
GLE6154	RF BOARD 12,5 KHz	CHANNEL SPACING	438-470MHz 2ppm
GLE6156	RF BOARD 12,5 KHz	CHANNEL SPACING	Tx420-433 Rx438-450MHz 2ppm
GLE6157	RF BOARD 12,5 KHz	CHANNEL SPACING	Tx438-450 Rx420-433MHz 2ppm
GLE6159	25 W POWER AMPLIFIER	403-433MHz	
GLE6160	25 W POWER AMPLIFIER	438-470MHz	
GLE6162	1-10 W POWER AMPLIFIER	403-433MHz	
GLE6163	1-10 W POWER AMPLIFIER	438-470MHz	
GLN6616	CONTROL HEAD DISPLAY BOARD, HEAD I		
GLN6617	LCD CONTROL HEAD DISPLAY BOARD, HEAD III		
GLN6618	CONTROL HEAD INTERCONNECT BOARD, HEAD I		
GLN6619	LCD CONTROL HEAD INTERCONNECT BOARD, HEAD II + III		
GLN6620	NON-LCD CONTROL HEAD HARDWARE, HEAD I		
GLN6621/23	LCD CONTROL HEAD HARDWARE, HEAD II + III		
GLN6984	COMMAND BOARD, CS & PL EZ, HEAD I + II.		
GLN6627	COMMAND BOARD, SELECT V EV, HEAD III		
GLN6628	COMMAND BOARD, SELECT V EZ, HEAD I + II		
GLN6790	CONTROL MIC I, DISPLAY BOARD		
GLN6792	CONTROL MIC I, INTERCONNECT BOARD.		
GLN6791	CONTROL MIC II, DISPLAY BOARD, SEL5.		
GLN6793	CONTROL MIC II, INTERCONNECT BOARD, SEL5 + PL, Sq.		
GLN6888	CONTROL MIC II, DISPLAY BOARD, PL, Sq.		

COMMAND BOARDS



EZ-MODELS

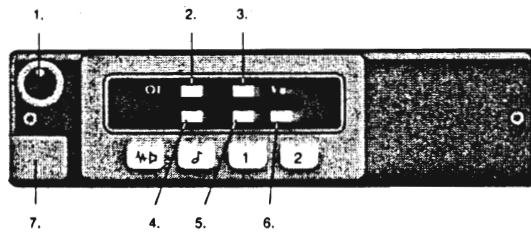
EZ-MODELS

EV-MODEL

* SEE MODULE OVERVIEW

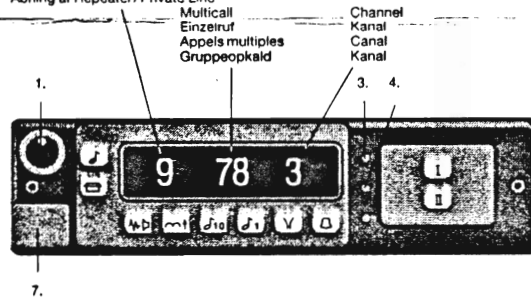
HARDWARE COMBINATION
CGM5500

Control Head 1



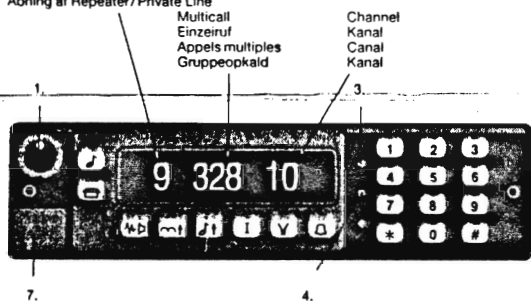
Control Head 2

RAT-PL or status
Zusatzrufgeber PL oder Status
RAT-PL ou etat
Åbning af Repeater / Private Line



Control Head 3

RAT-PL or status
Zusatzrufgeber PL oder Status
RAT-PL ou etat
Åbning af Repeater / Private Line



1. Volume Control
Lautstärkereglér
Volume sonore
Lydstyrke
2. On/Off LED
Ein/Aus LED
Marche/Arrêt DEL
Tænd/Sluk LED
3. Busy/Transmit LED
Besetzt/senden LED
Occupé/transmission DEL
Optaget/send LED

	Squelch On/Off Rauschsperré Ein/Aus Silence Marche/Arrêt Squelch Ind/Ud
	Select Call/Monitor Squelch Selektivrufbetrieb/Mithören Mode sélective/Moniteur Selektivt Opkald/Squelch
	Channel Select Kanalwahl Sélection canal Kanaivælger
	Multicall Select Rufnummer einstellen Sélection appels multiples Valg af opkaldsnummer
	Call Ruf senden Appel Sendetast
	Repeater Access/PL Zusatzruf/PL einstellen Accès répéteur/PL PL Private Line/Repeater
	Manual Repeater Access Zusatzruf senden Accès répéteur manuel Manuel Repeater Åbning
	Base Call Ruf zur Zentrale senden Appeler la base Opkald til basis station
	Telephone Interconnect Ruf zur Telefonüberleiteneinrichtung Connection téléphone Telefon Gennemstilling
	External Alarm/Secondary call Externer Alarm/Sekundärruf Alarme externe/Appel secondaire Extern Alarm/Sekundære Opkald
	Call Forwarding Rufweiterleitung Transfert d'appel Transfer af Opkald
	Public Address Zusatzlautsprecher Sonorisation Public Address
	Status Entry Statuseingabe Entrer le statut Status

4. Monitor/call LED
Mithören/rufen LED
Ecoute/appel DEL
Medhør/opkald LED
5. Channel 1 LED Indicator
Kanal 1 LED
Canal 1, indicateur DEL
Kanal 1 LED-indikator
6. Channel 2 LED
Kanal 2 LED
Canal 2, indicateur DEL
Kanal 2 LED-indikator
7. Microphone Connector
Mikrofonanschluß
Fiche Microphone
Mikrofonstik

	Shortcall Programming Programmiertaste für Kurzwahl Programmation appel rapide Kortnummer
	Group Call Gruppenrufziffer eingeben Appel de groupe Gruppeopkald
	Single Tone I/II Ruf ton I/II senden Tonalité unique I/II Toneopkald I/II

TIL: ALLE STORNO SERVICE CENTRE
SERVICE MANAGERS

BRODTRYKT

16 JUN 1989

STORNO SERVICE

FRA: STORNO SERVICE QUALITY

DATO: 89/08/10

EMNE: CQM5500/MC-MICRO frekvensstabilitet

På grund af en fejl i en leverandørs process er der en mulighed for, at radioer produceret fra begyndelsen af juni til 14 juli 1989 har et problem med referencekrystallet på 14.4 MHz.

Berørte serienumre:

245 RPL xxxx til 245 RPN xxxx (CQM5500/MC MICRO).
648 RPL xxxx til 648 RPN xxxx (MC COMPACT)
800 RPL xxxx til 800 RPN xxxx (MC MICRO BASE)
817 RPL xxxx til 817 RPN xxxx (MC TRC)

UNDTAGELSER:

Alle radioer med 2 ppm frekvensstabilitet option har ikke dette problem.

Problemet kan medføre, at radioernes frekvens driver ved udpakningsafprøvning eller i den første levetid.

AFHJÆLPNING

Lokaliser referencekrystallet varenummer 4802443B21.

De dårlige krystaller er mærkede NDK5-89.

Disse krystaller skal udskiftes med krystaller, samme varenummer, fra en anden leverandør (KVG).

Venligst informer os om, hvor mange radioer der er modtaget og som skal have krystaller skiftet, så vi kan bestille nye krystaller.

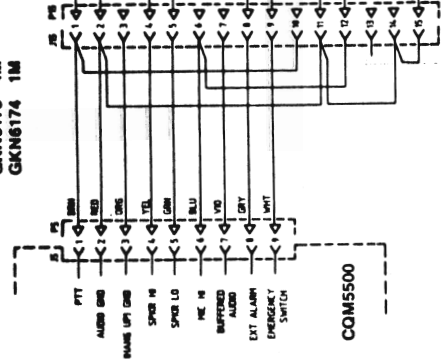
Alle dårlige krystaller vil blive ombyttet uden beregning.

Storno Service Quality
Ringager 2
DK-2605 Brøndby
Denmark

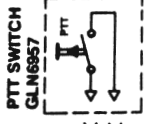

K. E. Rasmussen

Storno Service Quality Manager

ACCESSORY CABLE
GKN6173 4M
GKN6174 1M



COM5500



SPEAKER
GSN6047
(GSN6036)

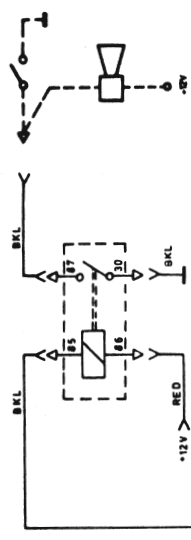
BUZZER
GLN6892



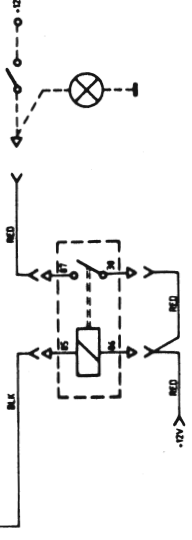
WHEEL MICROPHONE
GMN6135



ALARM RELAY
GLN6871



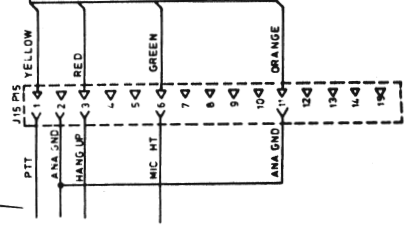
ALARM RELAY
GLN6871



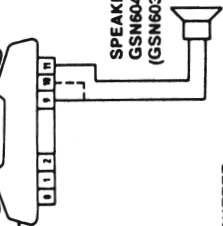
HAND MICROPHONE WITH HANGER
GMN6133



ACCESSORY CABLE
GKN6173 4M
GKN6174 1M



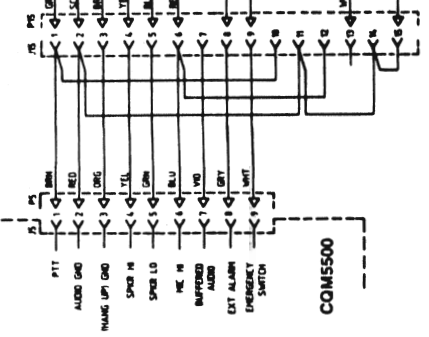
HANDSET
GLN6870



BUZZER
GLN6892

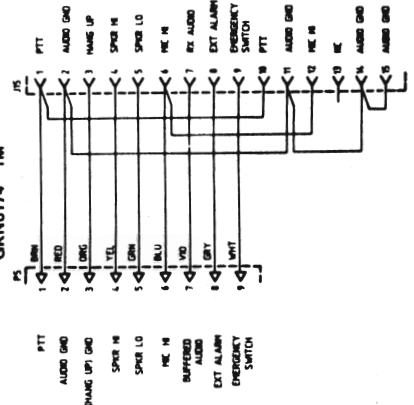
EMERGENCY SWITCH
GLN6612

ACCESSORY CABLE
GKN6173 4M
GKN6174 1M

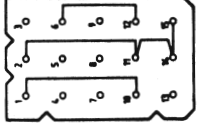


COM5500

ACCESSORY CABLE
GKN6173 4M
GKN6174 1M



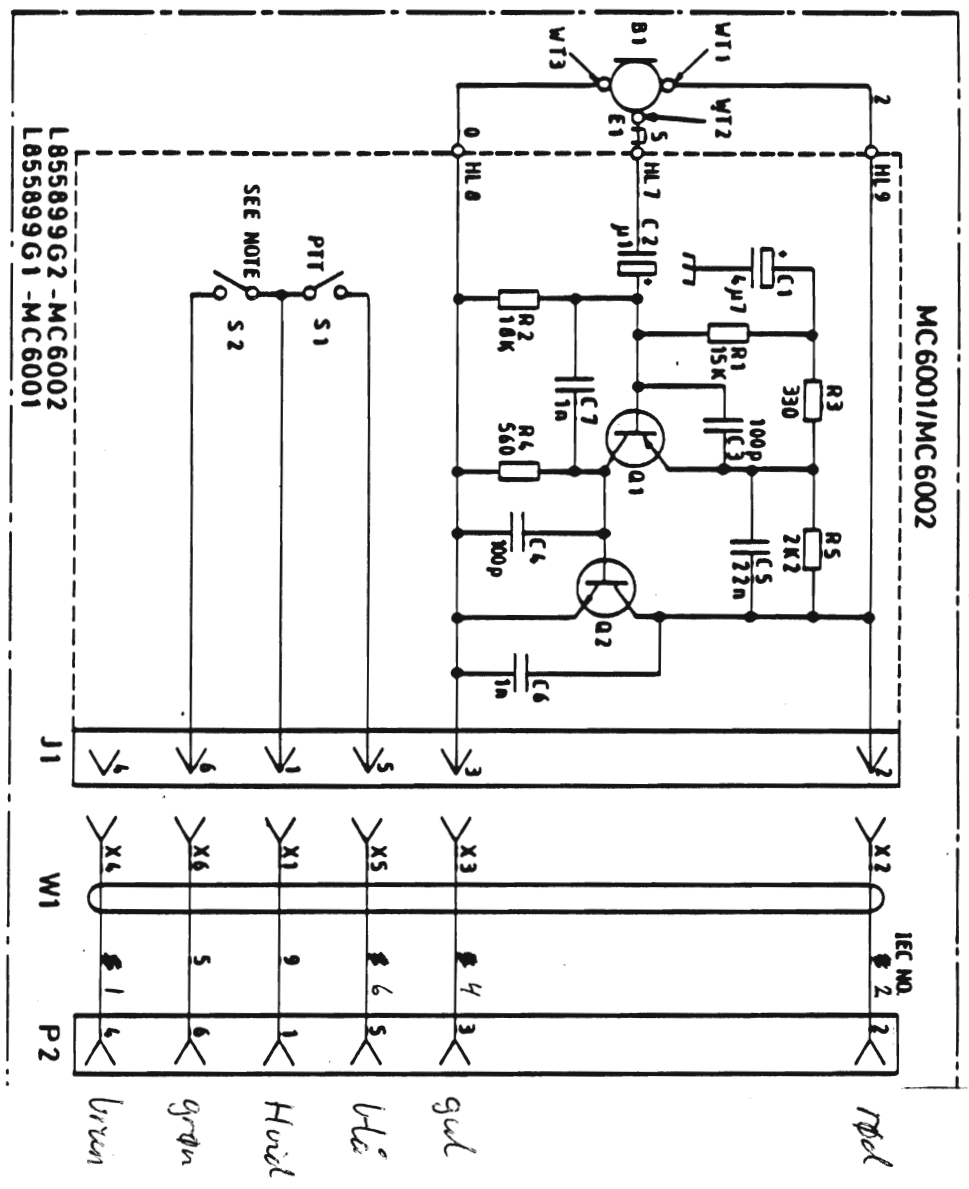
J15
TOP VIEW



COM5500
ACCESSORIES INSTALLATION INSTRUCTION
CODE NO.: 19J71184P1
M405.510

MC 6001 TIL QM 5500

HANDMIKE.



3.2

EXAMPLE

To illustrate how a specific model appears in the price book one example is shown below:

Radio model: MAU 22 EZ A 3 J 0 0 A K

- MA Manufactured in Europe
- U MC micro-Mobile universal mount
- 2 1-10 W power output
- 2 4 m Band (66 - 88 MHz)
- EZ Low tier Signalling board
- A 12 VDC
- 3 PL-tone signalling
- J 8 channel standard
- 00 25 KHz spacing
- A Production series A
- K Radio including accessories

Below is shown how the example above appears in the price book:

Basic Radio Models

All models listed are complete frontmount packages (control head is attached to the front of the radio) including: transceiver, Control Head 2. With microphone incl. hanger and accessory cable, installation kit, external loudspeaker, battery cable kit and a user guide in 5 languages. Operating voltage 13.2 VDC. Stability 5 ppm. Antenna must be supplied by installation technicians.

Note: Actual channel capacity determined by control unit.

	20 kHz		25 kHz			12.5 kHz		
	0.1 - 1.0 W	1 - 6 W	0.1 - 1.0 W	1 - 10 W	25 W	0.1 - 1.0 W	1 - 10 W	25 W
VHF 136 - 174 MHz +	MAU13EZA+		MAU23EZA+ MAU33EZA+			MAU23EZA+ MAU33EZA+		
APC245/APC345:								
CARRIER SQUELCH	1J13-K		1J00-K 1J00-K			1J22-K 1J22-K		
PRIVATE LINE	3J13-K		3J00-K 3J00-K			3J22-K 3J22-K		
SELECT 5	9J13-K		9J00-K 9J00-K			9J22-K 9J22-K		

2.2 THE CONCEPT OF CQM 5500

The biggest challenge in the design of CQM 5500 was to package all requirements into a small box and yet not lose any feature. The answer was MODULARITY and FLEXIBILITY.

2.2.1 Hardware Modularity

In order to give each customer exactly what he wants - no more, no less - the CQM 5500 was broken down into 4 major building blocks:

Building blocks:	Available as:
Control Unit Blocks:	Control Heads 1 / 2 / 3 * Control Microphone 1 / 2
PA Blocks:	25 W / 1 - 10 W** / 0.1 - 1 W***
RF Blocks:	450 MHz / 160 MHz / 80 MHz
Signalling Blocks:	Low Tier / High Tier

* High tier signalling block is prerequisite for using Control Head 3

** 1-6 W contained within this group

***Not available for all RF blocks

Any variety of combinations between building blocks provides the necessary systems flexibility.

2.2.1.1 Five Control Units

The CQM 5500 has five control units available. The main differences between control units are in the standard features and options available in each.

The control heads 1 and 2 & the control microphones 1 and 2 are designed mainly for low and mid tier applications, while control head 3 is designed for more complex requirements.

The low tier control units are also divided into three groups:

Carrier squelch (CS) - Private Line (PL) - Select 5.

The control units are connected to the radio with a rugged connector or via cable. Each control unit is compatible with any of the radios.

2.2.1.2 Three Power Amplifiers

There are three power amplifiers available:

- 0.1 - 1.0 W variable
- 1.0 - 10.0 W variable
- 25 W fixed

All are fully compatible with any of the radios. The 0.1-1 W amplifier is adjustable between 0.1 and 1 W. The 1-10 (6) W amplifier is adjustable between 1 and 10 (6) W. It is also possible to have one radio with two power levels - low and high, either on the same or on different frequencies. If a power level within the specified outer limits is needed, service technicians must be consulted.

2.2.1.3 Four RF-Boards

There are three basic RF-boards:

UHF - VHF - MB

To accommodate regional differences and requirements and to minimize costs it was necessary to develop subbands:

UHF: 403 - 433 MHz
 422 - 450 MHz
 438 - 470 MHz

VHF: 136 - 162 MHz
 146 - 174 MHz

MB: 66 - 88 MHz

Channels can be programmed within a switching bandwidth of 4 MHz in each subband without any further tuning.

Note:

Switching bandwidth for UHF transmitter is 5 MHz.

2.2.1.4 Sigalling Boards (5 Tone)

Two signalling boards are offered with CQM 5500:

A basic board which is compatible with all power amplifiers, all RF boxes and control units 1 and 2. It offers most common signalling features such as PL and Select 5 up to 100 calls.

The model structure designates this board as "EZ" as in MAU13EZA9J13-K.

The second logic board also is compatible with all power amplifiers and RF sections but only with control head 3. This board generates all other signalling options offered with control head 3. It is designated in the model structure as "EV" as in MAU13EVA9J13-K.

2.2.1.5 Mounting Flexibility

The small size of CQM 5500 (44 x 168 x 160 mm), DIN form factor C allows the radio to be installed anywhere:

- Under the dashboard
- On top of dashboard
- Under the roof
- In the dashboard DIN opening (front or remote)
- Under the seat
- In the boot
- anywhere ...

The radio mounting is called UNIVERSAL, no longer do we speak about dashboard or boot mount. By universal we mean that the customer can decide on the day of installation how to install the radio and/or controls:

- As a compact (front mount) unit
- Or remotely controlled

To make sure that the installation is possible the service technicians must have spare installation parts (i.e. remote cables and mounting hardware) in stock .

2.2.2 Software Flexibility

The heart of the CQM 5500 is an 8 bit microprocessor. It controls synthesizer and signalling features and options.

The flexibility to provide a multitude of features is realized by using an EEPROM (**E**lectrically **E**rasable **P**rogrammable **R**ead **O**nly **M**emory).

The customer benefits from this technology:

- Wide range of low/no cost options and features
- Short delivery time
- Quick and cost effective changes of signalling and channel allocation.

2.2.2.1 Signalling Formats

In the past it was difficult to change from one signalling format to another. The use of programmable EEPROMs allows any signalling format to be generated:

- First group:
- ZVEI
 - Modified ZVEI
 - French modified ZVEI

- Second group:
- CCIR
 - 70 ms CCIR
 - EFT (Extended First Tone)
 - EEA

The major difference between the formats lies in the following areas:

- Individual tone length
- Tone frequencies used
- Repeat/group/emergency tone frequencies

An overview can be found on the following pages.

PHONE TONE TABLE

No.	ZVEI Hz	Mod. ZVEI Hz	French Mod. ZVEI Hz	CCIR Hz	"70ms" CCIR Hz	EEA Hz
0	2400*	2200*	2400*	1981*	1981*	1981
1	1060	970	1060	1124	1124	1124
2	1160	1060	1160	1197	1197	1197
3	1270	1160	1270	1275	1275	1275
4	1400	1270	1400	1358	1358	1358
5	1530	1400	1530	1446	1446	1446
6	1670	1530	1670	1540	1540	1540
7	1830	1670	1830	1640	1640	1640
8	2000	1830	2000	1747	1747	1747
9	2200	2000	2200	1860	1860	1860
G	2800	885	885	2400	2400	1055
B	810	810	810	930	930	930
C	970	2600	2600	2247	2247	2247
D	885	2800	2800	991	991	991
F	930	930	930	873	873	873
R	2600	2400	970	2110	2110	2210

Note:

The tone G is used for group call applications.

The tone R is used as repeater tone.

The tones B, C, D and F are only available with "EV" models.

* Also used for group call applications.

SUMMARY OF SPECIFICATIONS

	ZVEI	CCIR	EEA
Group Call format:	XXORO (1000) XXXOR (100) XXXXO (10)	Recommendation local only Also see ZVEI	XXGRG (1000) XXXGR (100) XXXXG (10)
<u>Encoder</u>			
Timing	70 ± 15 ms	100 ± 10 ms	40 ± 4 ms
Pre-time:	140 ms	not spec'd	100 ms
Freq. Tol.:	± 1.5 %	± 8 Hz	± 1 %
Distortion:	-	-	10 % max.
Tone level Tol.:	-	-	70 ± 20 % of max. mod. (also ref. to 6dB pre-emph where applicable)
<u>Decoder</u>			
Detect time:	not spec'd	30 to 60 ms	not spec'd
Tone time-out-time:	min. 70 ms max. 140 ms ± 2 % min.	min. 140 ms max. 290 ms ± 0.5 % min. (± 8 Hz min.)	not spec'd
Must decode limit:			± 1.0 % mind.
Must decode pause limit:	15 ms max ± 4.5 % max.	3 ± 2 ms ± 3 %	4 ms max. not spec'd
Note decode limit:			

Temp. range: According to in-country land mobile specs Ref. to appendix for decode diagram.

2.2.2.2 Front Panel Programmability

CQM 5500 offers programmability of:

- Signalling options
- Frequencies
- Power levels
- Channel slaved options

from the front panel through the microphone connector. This means that in most cases the radio can remain in the car.

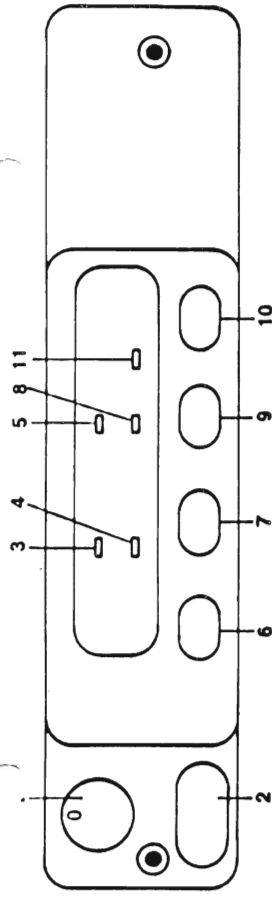
For the most important options a hand held computer (PX-4) is enough for reprogramming.

Benefit: - Easy inexpensive changes
 - Less down time

Note : It is not possible to add or delete any options after the radio has left the factory.

For a more comprehensive account of this, please confer with the Programming Manual.

CONTROL HEAD 1



CARRIER SQUELCH

1. Volume control
2. Microphone Connector
3. On/Off LED
4. LED not in use
5. Busy transmit LED
6. Squelch Button
7. Not in this version
8. Channel 1 LED indicator
9. Channel 1 Button
10. Channel 2 Button
11. Channel 2 LED

PRIVATE LINE

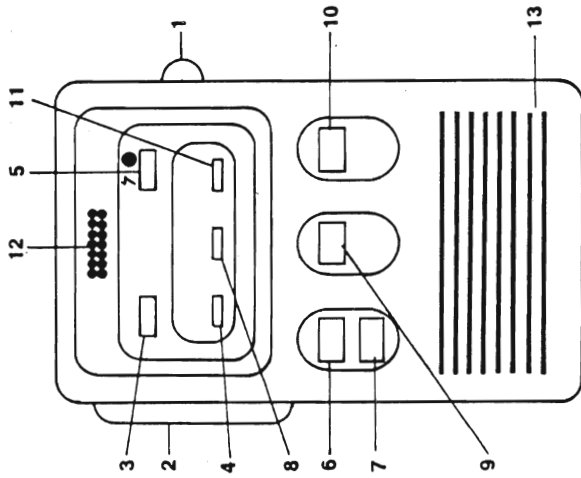
1. Volume control
2. Microphone Connector
3. On/Off LED
4. Monitor/Reset/Squelch Button
5. Busy Transmit LED
6. Monitor Squelch Button
7. Not in this version
8. Channel 1 LED
9. Channel 1 Button
10. Channel 2 Button
11. Channel 2 LED

SELECT 5

1. Volume control
2. Microphone Connector
3. On/Off LED
4. Monitor/Call LED
5. Busy/transmit LED
6. Mon. Reset/Squelch Button
7. Call Button
8. Channel 1 LED
9. Channel 1 Button
10. Channel 2 Button
11. Channel 2 LED

STANDARD CAPABILITY	OPTION
<p>Volume On/Off Squelch Button</p> <p>1 Channel Capacity LED - Power on - Transmit/Channel Busy</p> <p>Speaker - External Continuous Memory Backlighting Switch</p> <p>Time-Out-Timer w/Alert IP54</p> <p>Error Indication</p>	<p>2 Channel Capacity</p> <p>Omit Time-Out-Timer</p> <p>Channel Slaved RF Power</p> <p>Non Standard TOT</p> <p>Tx inhibit on Busy Ch.</p> <p>Flat Audio</p>
<p>Volume On/Off Monitor/Reset/Squelch Button</p> <p>1 Channel Capacity LED - Power on - Transmit/Channel Busy</p> <p>Speaker - External Continuous Memory Backlighting Switch</p> <p>Time-Out-Timer w/Alert IP54</p> <p>Error Indication</p>	<p>2 Channel Capacity</p> <p>Omit Time-Out-Timer</p> <p>Slaved RF Power Level</p> <p>PL - Encode only - Decode only</p> <p>Non Standard TOT</p> <p>Tx inhibit on Busy Ch.</p> <p>Flat Audio</p> <p>Omit Busy Light</p> <p>Ch. Slaved PL Enc Dec</p>
<p>Volume On/Off Monitor/Reset/Squelch Call Button</p> <p>1 Channel Capacity LED - Power On - Transmit/Channel Busy</p> <p>Speaker - External Continuous Memory Backlighting LCD/Switch</p> <p>Time-Out-Timer w/Alert</p> <p>Auto Reset after 7 sec.</p> <p>Format ZVEI</p> <p>Encode Pretime</p> <p>Group Call Standard</p> <p>Auto Acknowledge</p> <p>Side Tones</p> <p>Alert Tones</p> <p>IP54</p> <p>Error Indication</p>	<p>2 Channel Capacity</p> <p>Omit Time-Out-Timer</p> <p>Format: Modified ZVEI</p> <p>French ZVEI</p> <p>CCIR</p> <p>70 ms CCIR</p> <p>EEA</p> <p>Exten. 1st Ton</p> <p>Non Standard</p> <p>Pretime</p> <p>Unit ID - PTT</p> <p>Slaved RF Power Level</p> <p>PL - Encode</p> <p>Auto RAT - 1 Tone</p> <p>- 2 Tone Seq.</p> <p>- x Tone Seq.</p> <p>Omit Side Tones</p> <p>- Alert Tone</p> <p>Alert Tones Fixed</p> <p>Omit Group Call</p> <p>Omit Auto Acknowledge</p>
<p>Volume On/Off Squelch Button</p> <p>1 Channel Capacity LED - Power on - Transmit/Channel Busy</p> <p>Speaker - External Continuous Memory Backlighting Switch</p> <p>Time-Out-Timer w/Alert IP54</p> <p>Error Indication</p>	<p>Non Std. Ext. 1st Tone</p> <p>Emergency Scheme D</p> <p>Tx inhibit on Busy Ch.</p> <p>Auto Call Repeat 2 Sequ.</p> <p>Decode only (Sel 5)</p> <p>Decode only (Sel 5)</p> <p>Flat Audio</p> <p>Omit Busy Light</p> <p>Omit Auto Reset</p> <p>Group Call Expanded</p> <p>Auto Ack. 1 - Tone</p> <p>Auto Reset w/car. overr.</p> <p>6 Tone Signalling</p> <p>UNIT ID before call</p> <p>UNIT ID after call</p> <p>2 Tone Signalling</p> <p>3 Tone Signalling</p> <p>4 Tone Signalling</p> <p>UNIT ID bef. & after call</p> <p>UNIT ID repeat</p> <p>Non stand. Auto reset</p> <p>Time</p>

CONTROL MICROPHONE 1



CARRIER SQUELCH

1. Volume control
2. PTT Button
3. On/Off LED
4. LED not in use
5. Busy/transmit LED
6. Squelch Button
7. Not in this version
8. Channel 1 LED indicator
9. Channel 1 Button
10. Channel 2 Button
11. Channel 2 LED
12. Microphone
13. Loudspeaker (0.5 W)

PRIVATE LINE

1. Volume control
2. PTT Button
3. On/Off LED
4. Monitor/Reset/Squelch LED
5. Busy/transmit LED
6. Monitor/Squelch Button
7. Not in this version
8. Channel 1 LED Indicator
9. Channel 1 Button
10. Channel 2 Button
11. Channel 2 LED
12. Microphone
13. Loudspeaker (0.5 W)

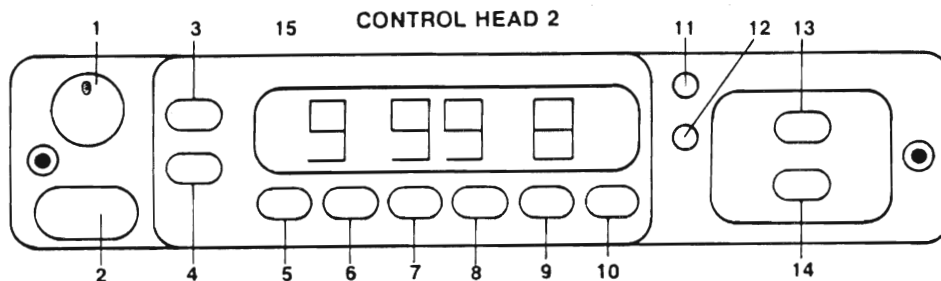
USER 5

1. Volume control
2. PTT Button
3. On/Off LED
4. Monitor/Call LED
5. Busy/transmit LED
6. Mon/Reset/Squelch Button
7. Call Button
8. Channel 1 LED Indicator
9. Channel 1 Button
10. Channel 2 Button
11. Channel 2 LED
12. Microphone
13. Loudspeaker (0.5 W)

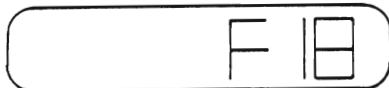
STANDARD CAPABILITY	OPTION
Volume On/Off Squelch Button 1 Channel Capacity LED - Power on - Transmit/Channel Busy Continuous Memory Time-Out-Timer w/Alert IP50 Error Indication	2 Channel Capacity Omit Time-Out-Timer Channel Slaved RF Power Non Standard TOT Tx inhibit on Busy Ch Flat Audio

STANDARD CAPABILITY	OPTION
Volume/On/Off Monitor/Reset/Squelch Button 1 Channel Capacity LED - Power on - Transmit/Channel Busy - Monitor Continuous Memory Time-Out-Timer w/Alert IP50 PL Encode/Decode Error Indication	2 Channel Capacity Omit Time-Out-Timer Slaved RF Power Level PL - Encode only - Decode only Non Standard TOT Tx inhibit on Busy Ch. Flat Audio

STANDARD CAPABILITY	OPTION	OPTION
Volume/On/Off Monitor/Reset Squelch Call Button 1 Channel Capacity LED - Power On - Transmit/Channel Busy Speaker - External Continuous Memory Time-Out-Timer w/Alert Auto Reset after 7 sec. 5 Tone Encoder/Decode Format ZVEI Encode Pretime Group Call Standard Auto Acknowledge Side Tones Alert Tones IP50 Error Indication	2 Channel Capacity Omit Time-Out-Timer Format: Modified ZVEI French ZVEI CCIR 70 ms CCIR EEA Exten. 1st Tone Non Standard Pretime Unit ID - On PTT Slaved RF Power Level PL - Encode Auto RAT - 1 Tone - 2 Tone Seq. - x Tone Seq. Omit Side Tones - Alert Tone Alert Tones Fixed Omit Group Call Omit Auto Acknowledge	Non Std. Ext. 1st Tone Emergency Scheme D Tx inhibit on Busy Ch. Auto Call Repeat 2 Sequ. Encode only (Set 5) Decode only (Set 5) Flat Audio Omit Busy Light Omit Auto Reset Group Call Expanded Auto Ack. 1 - Tone Auto Reset w/car. overr. 6 Tone Signalling UNIT ID before call UNIT ID after call 2 Tone Signalling 3 Tone Signalling 4 Tone Signalling UNIT ID bet & after call UNIT ID repeat Non stand. Auto reset Time

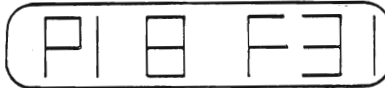


CARRIER SQUELCH



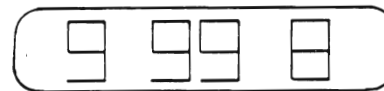
1. Volume control
2. Microphone Connector
3. Not in this version
4. Not in this version
5. Squelch Button
6. Not in this version
7. Not in this version
8. Not in this version
9. * Channel Select Button (10's) "Optional"
10. * Channel Select Button (1's)
11. Transmit Channel Busy LED.
12. LED not in use
13. Not in this version
14. Not in this version
15. Squelch Indicator

PRIVATE LINE (PL)



1. Volume control
2. Microphone Connector
3. Not in this version
4. Not in this version
5. Monitor/Squelch/Reset Button
6. Not in this version
7. * Selectable PL Button (Optional)
8. Not in this version
9. * Channel Select Button (10's) "Optional"
10. Channel Select Button (1's)
11. Transmit Channel Busy LED
12. Monitor LED
13. Not in this version
14. Not in this version
15. Monitor/Squelch Indicator

USER 5



1. Volume control
2. Microphone Connector
3. Call Button
4. Base Call/MRAT Execute (Option)
5. Mon./Reset/Squelch
6. * RAT/PL Select (Option)
7. * Inc. 10's Digit for Multicall
8. * Inc. 1's Digit for Multicall
9. * Channel Select up to 8 Channels
10. Sec. Call/Ext. Alarm (Option)
11. Transmit/Channel Busy LED
12. Call Monitor LED
13. Single I Tone (Option)
14. Single II Tone (Option)

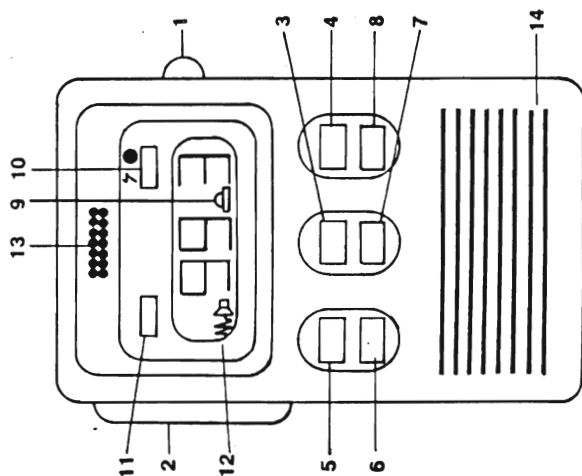
* The digit can only be stepped upwards.

STANDARD CAPABILITY	
Volume On/Off Squelch Button 8 Channel Capacity LCD Display LED - Transmit/Busy Speaker - External Continuous Memory Backlighting LCD/Switch Acoustic Key Feedback Time-Out-Timer w/Alert IP54 Error Indication	
OPTION	
20 Channel Capacity 32 Channel Capacity Omit Time-Out-Timer Slaved RF Power Level Non Standard TOT Tx inhibit on Busy Ch. Flat Audio	

STANDARD CAPABILITY	
Volume/On/Off Monitor/Reset/Squelch 8 Channel Capacity LCD Display LED - Transmit/Channel Busy - Monitor External Speaker Continuous Memory Backlighting LCD/Switch Acoustic Key Feedback Time-Out-Timer w/Alert PL Encode/Decode IP50 Error Indication	
OPTION	
20 Channel Capacity 32 Channel Capacity Omit Time-Out-Timer Slaved RF Power Level PL - Encode only - Decode only - Sel. Enc. (0-9) - Sel. Enc./Dec. (0-9) Non Standard TOT Tx inhibit on Busy Ch. Flat Audio Omit Busy Light Manual Publ. Address Ch. Slaved PL Enc/Dec	

STANDARD CAPABILITY	
Volume/On/Off Monitor/Reset Squelch Call Button 8 Channel Capacity LCD Display LED - Transmit/Channel Busy - Call/Monitor Speaker - External Continuous Memory Backlighting LCD/Switch Acoustic Key Feedback Time-Out-Timer w/Alert	Auto Reset after 7 sec. 5 Tone Encode/Decode Format ZVEI Encode Pretime Multicall 100 Group Call Standard Auto Acknowledge Base Call Side Tones Alert Tones IP54 Error Indication
OPTION	
Omit Time-Out-Timer Single Tone Call I Single Tone Call I + II Format: Modified ZVEI French ZVEI CCIR 70 ms CCIR EEA Exten. 1st Tone Non Standard Pretime Unit ID - On PTT Multicall 10 Omit Multicall External Alarm Secondary Call Channel Slaved RF Power Channel Slaved Functions Auto Call Repeat 2 Sequ. PL - Encode - Selectable Encode Auto - RAT - 1 Tone - 2 Tone Seq. - X Tone Seq. - 2 Tone 2nd sel. - X Tone 1 sel. Manual RAT - 1 Tone - 2 Tone Seq. - X Tone Seq. - 2 Tone 2nd sel. - X Tone 1 sel. Omit Side Tones - Alert Tones Alert Tones Fixed	Omit Group Call Omit Auto Acknowledge Non Std. Ext. 1st Tone Omit Base Call Emergency Scheme D Group Lockout Tx inhibit on Busy Ch. Encode Only (Sel 5) Decode Only (Sel 5) Flat Audio Omit Busy Light Omit Auto Reset Group Call - Expanded Manual & Auto RAT Auto Acl. 1-Tone Public Address, manual Auto res w/carr. overr. Manual RAT w/Unit ID 6 Tone Signalling Unit ID before Call Unit ID after Call Manual RAT 1 Tone sel (0-9) Auto RAT 1 Tone sel (0-9) 2 Tone Signalling 3 Tone Signalling 4 Tone Signalling Auto acknowledge w/Status Unit ID bef. & after Call Unit ID repeat Non Stand. Auto Reset Time

CONTROL MICROPHONE 2



CARRIER SQUELCH	PRIVATE LINE	SELECT 5
<ol style="list-style-type: none"> Volume control PTT Button Channel Select Button 	<ol style="list-style-type: none"> Volume control PTT Button Channel Select Button (10 s) "Optional" Channel Select Button (1's) Squelch Button Not in this version Not in this version Not in this version Not in this version Transmit/Channel Busy LED LED not in use Squelch Indicator Microphone Loudspeaker 	<ol style="list-style-type: none"> Volume control PTT Button Call Button (10's) "Optional" Base Call/MRAT Execute (Optional)/Extern. Alarm (Optional)/Sec Call (Optional) Mon./Reset/Squelch Button Inc. 10's Digit for Multicall Inc. 1's Digit for Multicall Channel Select Sec.Call/Ext.Alarm Indicator (Option) Transmit/Channel Busy LED Call/Monitor LED Monitor/Reset/Squelch Indicator Microphone Loudspeaker

* The digit can only be stepped upwards.

PRIVATE LINE

STANDARD CAPABILITY	OPTION
Volume On/Off Monitor/Reset/Squelch 8 Channel Capacity LCD Display LED - Transmit/Channel Busy - Monitor External Speaker Continuous Memory Backlighting LCD/Switch Acoustic Key Feedback Time-Out-Timer w/Alert PL Encode/Decode IP50 Error Indication	Omit Time-Out-Timer Modified ZVEI French ZVEI CCIR 70 ms CCIR EEA Exten. 1st Tone Non Standard Pretime Unit ID - On PTT Multicall 10 Omit Multicall External Alarm Secondary Call Channel Slaved RF Power Channel Slaved Functions Auto Call Repeat 2 Sequ. PL - Encode Encode Pretime Multicall 100 Group Call Standard Auto Acknowledge Base Call Side Tones Alert Tones IP50 Error Indication

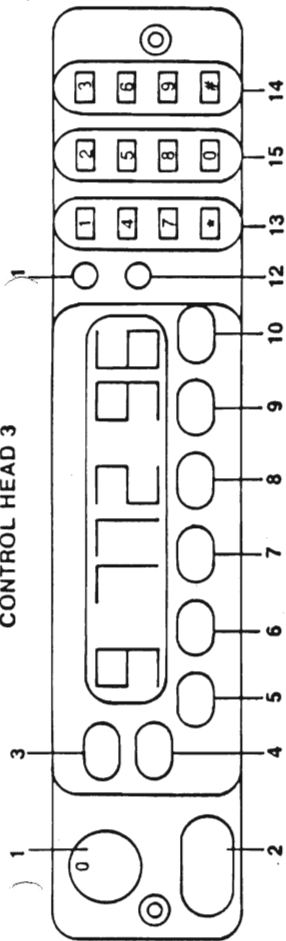
SELECT 5

STANDARD CAPABILITY	OPTION
Volume On/Off Monitor/Reset/Squelch Call Button 8 Channel Capacity LCD Display LED - Transmit/Channel Busy - Call/Monitor Continuous Memory Backlighting LCD Acoustic Key Feedback Time-Out-Timer w/Alert Auto Reset after 7 sec. 5 Tone Encode/Decode Format ZVEI Encode Pretime Multicall 100 Group Call Standard Auto Acknowledge Base Call Side Tones Alert Tones IP50 Error Indication	Alert Tones Fix Omit Group Call Omit Auto Acknowledge Non Std. Ext. 1st Tone Omit Base Call Emergency Scheme D Group Lockout Tx inhibit on Busy Ch. Encode only (Sel 5) Decode only (Sel 5) Flat Audio Omit Busy Light Omit Auto Reset Group Call - Expanded Manual & Auto RAT Auto Ack. 1 Tone Public Address, manual Auto res w/carr. overr. Manual RAT w/Unit ID 6 Tone Signalling Unit ID before Call Unit ID after Call 2 Tone Signalling 3 Tone Signalling 4 Tone Signalling Unit ID bef. & after Call Unit ID repeat Non Stand. Auto Reset Time

CARRIER SQUELCH

STANDARD CAPABILITY	OPTION
Volume On/Off Monitor/Reset/Squelch 8 Channel Capacity LCD Display LED Transmit/Channel Busy Continuous Memory Backlighting LCD Acoustic Key Feedback Time-Out-Timer w/Alert IP50 Error Indication	20 Channel Capacity 32 Channel Capacity Omit Time-Out-Timer Slaved RF Power Level Non Standard TOT Tx inhibit on Busy Ch. Flat Audio

CONTROL HEAD 3



1. Volume control
2. Microphone Connector
3. Call Button
4. Base Call/Telephone Interconnect
5. Monitor/Reset/Squelch
6. * Selectable RAT/PL or Multicall or Status Select
7. * Multicall or Call 1
8. MRAT Execute or Call 1 or Call 2
9. * Channel Select
10. Secondary Call/External Alarm/Call Forwarding
11. Transmit/Channel Busy LED
12. Call/Monitor LED
13. Program Short Call
14. Group Call Tone "G" Enabled
15. Keypad (0-9) (Short Call)

* To enter Digits: Press Function Button and then the desired number via the keypad.

STANDARD CAPABILITY	OPTION	OPTION
Volume On/Off Monitor Reset/Squelch Call Button 8 Channel Capacity LCD Display LED - Transmit/Channel Busy * - Call/Monitor Speaker - External Continuous Memory Backlighting LCD/Buttons Acoustic Key Entry Feedback Time-Out:Timer w/Alert Auto Reset after 7 sec. Error Indication Sel 5 Encoder/Decode Format ZVEI Encode Pretime Multicall 1000 Group Call Standard Auto Acknowledge Base Call Short Call Side Tones - Variable Alert & Call Rem. Var. End of Message Tone IP54 Error Indication	Auto RAT 1 Tone 1 1. Sel. (0-9) 2 Tone Seq. X Tone Seq. 2 Tone 2nd Sel. X Tone 1 Sel. Manual RAT 1 Tone 1 Tone Sel. (0-9) 2 Tone Seq. X Tone Seq. 2 Tone 2nd Sel. X Tone 1 Sel. Auto Call Repeat (2 Seq.) Emergency Scheme A Scheme B Scheme C - on prepro. Channel Telephone Interconnect Secret Oper. 7 sec. reset Secret Oper. forced reset Omit Side Tones - Alert & Call Rem. Tones Ch. Slaved RF Power Level Channel Slaved Function Program Channel Display Omit Group Call Nin Std. Ext. 1st Tone Omit End of Message Tone Group Lockout Selective Lockout	Non Std. TOT Alert & Call reminder tones fixed Omit short call Omit Auto Acknowledge 2 Tone Signalling 3 Tone Signalling 4 Tone Signalling 6 Tone Signalling 7 Tone Signalling Encode Only (5 Tones) Decode Only (5 Tones) Auto Ackn. w/Status Public Address Manual Trakmode (Mode by Channel) Base Call Code Decode Code RAT (1, 2 or 5 Tone) Group Call - Standard - Expanded - Code PL Encode Secret (On/Off) Auto Ackn. (On/Off) Flat Audio Omit Busy Light Auto Res. w/Carr Overr.
Omit Time-Out:Timer TX inhibit on - busy Ch. MRAT + Unit ID 20 Channels 32 Channels 96 Channels PL Encode PL Selectable Enc. (0-9) Single Tone Call I Single Tone Call I + II Format: Modified ZVEI French ZVEI CCIR 70 ms CCIR EEA Exten. 1st Tone Non Standard Pretime Unit ID - Before Call - After Call - On PTT Multicall 10 100 10000 100000 Omit Multicall Group Call Expanded Omit Base Call External Alarm Secondary Call Sec. Call on prep. Ch.		

FORMAT	ZVEI
PRETIME	ENCODE PRETIME 140 ms STD
ENC/DEC	ENCODE/DECODE
MAB 75	OMIT TIME OUT TIME
MAB 861	NONSTANDARD TIME
MAB 860	AUTORES WITH CARRIER OVERRIDE
MAB 377	NONSTD EXTENDED FIRST TONE
MAB 454	AUTO CALL REPEAT
MAB 864	x TONE SEQUENTIAL
MAB 448	100 LEVEL
GROUPCA	STANDARD GROUPOCALL
MAB 866	GROUP LOCK OUT
MAB 903	1 TONE AAK
BASECAL	STANDARD (BASECALL)
MAB 869	UNIT ID BEFORE CALL
MAB 452	UNIT ID ON PTT
MAB 862	UNIT ID REPEAT
MAB 318	CALL FORWARD
MAB 671	TX INHIBIT ON BUSY CHANNEL
MAB 458	OMIT BUSY LIGHT
MAB 289	OMIT ALERT TONES
CONTROL	8 CHANNEL

FORMAT	ZVEI
PRETIME	ENCODE PRETIME 140 ms STD
ENC/DEC	ENCODE/DECODE
TIMEOUT	TIME OUT TIMER 60 sec STD
MAB 858	OMIT AUTO RESET
MAB 454	AUTO CALL REPEAT
MAB 907	CHANNEL SLAVED FUNCTION
MAB 865	x TONE 1 SELECTABLE
MAB 456	2 TONE CALL 1 & 2
MAB 448	100 LEVEL
GROUPCA	STANDARD GROUPOCALL
AUTOACK	STANDARD AUTO ACKNOWLEDGE
BASECAL	STANDARD (BASECALL)
MAB 869	UNIT ID BEFORE CALL
MAB 452	UNIT ID ON PTT
MAB 862	UNIT ID REPEAT
MAB 116	EXTERNAL ALARM
MAB 470	EMERGENCY SCHEME D
MAB 671	TX INHIBIT ON BUSY CHANNEL
MAB 458	OMIT BUSY LIGHT
MAB 289	OMIT ALERT TONES
CONTROL	8 CHANNEL

FORMAT	ZVEI
PRETIME	ENCODE PRETIME 140 ms STD
ENC/DEC	ENCODE/DECODE
MAB 287	NONSTANDARD TIME OUT TIME
MAB 861	NONSTANDARD TIME
MAB 860	AUTORES WITH CARRIER OVERRIDE
MAB 453	EXTENDED 1st TONE 600 ms
MAB 454	AUTO CALL REPEAT
MAB 865	x TONE 1 SELECTABLE
MAB 879	SINGLE ENC / DELETE MULTICALL
GROUPCA	STANDARD GROUPELL
AUTOACK	STANDARD AUTO ACKNOWLEDGE
BASECAL	STANDARD (BASECALL)
MAB 814	ID BEFORE AND AFTER CALL
MAB 452	UNIT ID ON PTT
MAB 862	UNIT ID REPEAT
MAB 300	SECONDARY CALL
MAB 671	TX INHIBIT ON BUSY CHANNEL
MAB 458	OMIT BUSY LIGHT
MAB 289	OMIT ALERT TONES
CONTROL	8 CHANNEL

CARRIER	CARRIER SQUELCH
MAB 458	OMIT BUSY LIGHT
MAB 287	NON STANDARD TIME OUT TIMER
MAB 671	TX INHIBIT ON BUSY CHANNEL
MAB 887	02 CHANNEL CONTROLHEAD 1
DIRECT	PTT WITHOUT MONITORING
MONITOR	OMIT SINGLE HAND OPERATION
PRESS ANY KEY TO CONTINUE	

MAB 137	CCIR
PRETIME	ENCODE PRETIME 140 ms STD
ENC/DEC	ENCODE/DECODE
MAB 75	OMIT TIME OUT TIME
AUTORES	AUTO RESET STANDARD
MAB 879	SINGLE ENC / DELETE MULTICALL
MAB 901	OMIT GROUPELL
AUTOACK	STANDARD AUTO ACKNOWLEDGE
MAB 880	OMIT BASECALL
MAB 891	1 CHANNEL