

SAATI - GLB ver 4.8 Software

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Limited Warranty

SAATI warrants only the software against faulty operation.

SAATI cannot be held responsible for operation of any of the devices outside that of the manufacturers recommendations.

User Licence Agreement between SAATI and ZRIACG.

1. The ownership of the software remains the property of SAATI.
2. Each user is licenced to use the said software under his/her own callsign only.
3. By paying a prescribed licencing fee to SAATI is your acceptance of the licencing conditions.
4. Unauthorised duplication of the said software is a violation of the licencing agreement and is a criminal offence here in the Republic of South Africa.

Enter your command. Some commands do not require the RETURN. Please observe the cursor carefully, if it remains after the command enter RETURN and the command will be executed.

4. Enable / Disable a Command

To enable a command type the first two letters of the command eg. OO Then the terminal will display OOD- which means the command is disabled. To enable the command type E followed by RETURN to invoke the enable function. Disabling is just the opposite.

Please Note some commands have as a default: disable, others enable and some may have numbers, **observe these parameters very carefully.**

5. HOW TO CONDUCT A CONNECT

a. Enter the destination station's callsign.

Type SD. The prompt on the screen will be -----. Enter now the callsign, eg. ZS6ZZZ. On completion you will see the following: ZS6ZZZ0 where the 0 represents the other station's ssid (Secondary Station Identifier). 0 will be the default, now press RETURN to accept.

b. Enter the digipeater callsign (Via)

Type SV. The prompt on the screen will be -----. Enter now the callsign, eg. ZS6YYY. On completion you will see the following: ZS6YYY0 where the 0 represents the "via" station's ssid. 0 will be the default, now press RETURN to accept.

This command would only be invoked if you cannot connect with the distant station direct. Up to 7 "via" stations could be used.

c. Enter S (status) followed by RETURN.

The following message will appear on the screen :

```
1 /ZS6XXX /ZS6ZZZ / //L RDU/XE/RL/0
```

and the following if the SV command was used :

```
1 /ZS6XXX /ZS6ZZZ /ZS6YYY //L RDU/XE/RL/0
```

and the following if more than one digipeater was used :

```
1/ZS6XXX /ZS6ZZZ /ZS6YYY # //L RDU/XE/RL/0
```

d. Connect to destination station

Enter AC (Auto Connect). Wait until the "connected to ZS6ZZZ" message appears on the screen. If your terminal has a bell you will hear the bell ring.

Now your station is in Chat mode and you can send and receive messages from the destination station.

Enter your message followed by Control J which will automatically transmit your packet to the other station.

The acknowledgment of the packet will be by the prompt - ack and the bell if the command MK is disabled. The default is disabled.

If your terminal has the bell you may want to eliminate the ack appearing. To do so, return to command mode by pressing the ESC key. Type MK and the prompt will be MKD- now enter E and RETURN. Now type MS to return to chat mode.

e. Disconnect.

At the end of your contact with the other station one of the parties, usually the station that made the connect, will then disconnect. To do so enter control C. The prompt will be :disconnect and your SAATI tnc returns to the command mode.

6. How to create a beacon

a. Enable the command OO ie. OO-E.

b. Enter I followed by your beacon message. Always end the message with a RETURN.

c. Press the escape key on the terminal.

d. Enter BS (Beacon Save) followed by RETURN.

e. Enter T (Type) and your beacon message will be displayed.

f. Enter BT (Beacon Time). The prompt will be BT0- which means the timer is not activated. Enter a number from 1 to 255. Each number represents about 12 seconds. A gentleman's agreement is to restrict beacons to about once every 30 minutes ie. BT150. The timer is activated by entering RETURN.

g. Beacons can be relayed via other stations (BV).

h. The Beacon destination (BD) could be anything eg. CQ, Beacon, etc., this command is restricted to 6 characters.

i. Disable the OO command ie. OO-D.

j. To kill the beacon message use BK.

7. Queue Mode

This enables the operator to leave his SAATI tnc in unattended mode and still be able to receive messages from other stations. A typical example is:- The operator who uses his computer as a terminal and wants to free it for something else.

- a. Enable the OQ command.
- b. Enable the OO command if you want to receive only messages addressed to yourself.
- c. Beacon messages can be useful in conjunction with the Q mode. An operator can advise the other station that his station is unattended.

To use this facility turn the timer of the beacon off (BT0).

- d. For unattended operation a "watchdog" is recommended. SAATI can provide a circuit on request.

8. Transparent Mode

Transparent mode has the advantage that it can be used in conjunction with ordinary terminal programs.

It is commonly used to transfer programs (only non commercial is allowed on the Ham bands) / files to another station or a bulletin board system.

Transparent mode requires the host Computer / Terminal to observe the CTS line. When the CTS is set false from the SAATI tnc it tells the host to wait a while till it is ready to accept more data.

During transparent mode operation:

- a. There is no console echo.
- b. Every Byte sent to the SAATI tnc from the host Computer / Terminal is transmitted.
- c. No commands are accepted.
- d. Transmissions occur only while connected.

Procedure to enter and exit:

- a. Establish a connect with another station.
- b. Press the ESC (escape) on the terminal. Wait for the ready prompt.
- c. Enable the MX command followed by RETURN.
- d. Enter MS followed by RETURN.
- e. Upload the file via the host computer and send it to the distant station.
- f. To exit transparent mode wait two to three seconds after the file has been sent and then press control C three times and wait for the ready prompt.
- g. Disable the MX command.
- h. Return to chat mode by entering MS followed by RETURN.
- i. Continue with connect as normal or disconnect if so desire.

COMMANDS

Commands are used to direct the SAATI tnc to transmit packets, set operating modes, control the display format and to change operating parameters.

Most commands start with two letters; the first implies a category and the second the command within the category.

DIRECT COMMANDS

Require no additional information . Eg. "AT" means Automatic Transmit (causes the current message to be transmitted until acknowledged).

MODE-SETTING COMMANDS

Commands that set or reset operating modes are completed with either a D or an E (Disable or Enable).

COMMAND LISTING

AUTOMATIC OPERATING COMMANDS (Category A)

AA	End info acknowledge (after an AW)
AC	Initiate a connect request to another station
AD	Send a disconnect request
AH	Halt.Stop repeating an unacknowledged packet
AR	Resume sending (after a halt)
AS	Standby mode (no Receive or transmit)
AT	Transmit current packet until acknowledged
AW	Send a Wait acknowledge (RNR) to stop the other station
AX	Abort current transmission

BEACON COMMANDS

BD	Enter a beacon destination
BK	Kill beacon message
BR	Recall beacon message
BS	Store a beacon message
BT	Set beacon timer
BV	Enter beacon digipeater call sign/s (Via)

DEBUG COMMANDS

DH	Transmit a 2200 Hz tone (High)
DL	Transmit a 1200 Hz tone (Low)
DO	Turn the test tone off

Note: always use DH then DL then DO.

MANUAL OPERATIONS (Category M)

MA	Set address field to value "n"
MC	Set control field to value "n"
MD	Manually disconnect on our side
ME	Set transparent mode exit character
MF	Output automatic LF's after RETURN to other station in chat mode
MI	Transmit own call sign in CW
MK	Disable -ack- message in chat mode
ML	Enable automatic entry into chat or transparent mode
MM	Return number of 256-byte memory blocks available
MS	Enter chat or transparent mode
MT	Transmit info in transmit buffer
MU	Set unconnected mode
MV	Enable eavesdropping on repeated packets via your station
MX	Enable transparent mode
MR	Enable AX25 repeater function

INPUT / OUTPUT COMMANDS (Misc Categories)

I	Input data into beacon buffer
K	Kill contents of buffer
T	Type transmit buffer contents
OA	Receive packets only from pre-determined stations (2 max)
OB	Disable/Enable block mode
OC	Display info from other calling stations while connected
OD	Disable/Enable non-info data display
OF	Output one frame from the queue when OQ is enabled
OH	Disable/Enable header display
OI	Set value for chat mode timer
OK	Kill queue buffer contents
OL	Disable/Enable auto linefeed on carriage return
OM	Disable/Enable RTTY motor control mode
ON	Insert "n" nulls after a carriage return
OO	Disable/Enable connect-only mode to own station
OQ	Disable/Enable queue-up mode
OU	Disable/Enable status updates
OW	Limit page width to "n" characters

SET-UP COMMANDS (Category S)

S	Display system status
SB	Disable/Enable carrier backoff
SC	Set your callsign (Pre-programmed)
SD	Set Destination call sign
SE	Disable/Enable console echo
SF	Set length of preamble to "n" bytes
SG	Disable/Enable garbage mode
SH	Set highest number of frames per packet to "n"
SI	Re-Initialise to power-up values
SJ	Sets the "ON AIR" data link baud rate
SK	Set transparent mode time value to "n" fiftieths of a second
SL	Set maximum frame length to "n" characters
SM	Allocate "n" 256-byte blocks to transmit buffer

SN Set number of retries to "n"
 SP Set receive/transmit delay to "2n" milliseconds
 SQ Set value for T2 (connection timer), about 6 minutes
 SR Set number system to Binary, Decimal, Hex or Octal
 SS Set CW identifier speed (WPM)
 ST Set retry delay time to "n" tenths of a second
 SV Enter digipeater call sign
 SY Set control characters for Insert and Chat modes
 SZ Enable/Disable leading zeros

ADDITIONAL EXPLANATIONS ON CERTAIN COMMANDS

HEADER DISPLAY

S (RETURN) A request for the status of your SAATI inc.
 There are eight fields separated by a /, described from left to right.

Field

1. Link State

" " Explanation

- 1 Disconnect
- 2 Connected to (call sign)
- 3 Counted out, no Acknowledgment received
- 4 Acknowledgment received
- 5 Wait requested
- 6 Holding (our wait request acknowledged)
- 7 Holding

2. Own call sign and ssid if other than 0

3. Destination call sign and ssid if other than 0

4. Digipeater call sign and ssid if other than 0

5. A series of letters indicating the data flow:

- B Own end busy (memory full)
- W Own end busy via manual (AW) command
- X Holding for the other station, who has sent a wait request
- H Holding due to a manual command (AH)

6. A series of letters indicating output formatting modes

(the presence of a letter indicates the active state)

- M RTTY motor control
- B Block mode is enabled
- L Automatic linefeed is enabled
- O Connect-only mode is enabled
- H Header display is enabled
- D Non-info data display is enabled
- U Status update mode is enabled
- R *No TNC generated messages sent to screen.*

7. A series of letters indicating the following modes:

C Baudot conversion is active
U Uppercase mode
B Carrier off
G Garbage mode is enabled
X AX.25 mode
Q Queue mode is enabled
E Terminal echo is enabled

8. A series of letters indicating the following modes:

U Unconnected mode
V Repeated packets via own station's eavesdropping
R Digipeating(repeater) active
L Automatic chat/transparent mode entry enabled
F Sending auto linefeed in chat mode
X Transparent mode enabled
" Indicates there is data in the transmit buffer

9. A number indicating the beacon timer status (0 represents off)

COMMANDS

SG Disable/Enable garbage mode. Disables error checking to allow all data thru channel for monitoring in unconnected mode.

SJ(n) Set the "ON AIR" data link baud rate of the SAATI tnc computer. "n" is 3 for 300 baud, 6 for 600 baud and 12 for 1200 baud

SN(n) Set the number of tries to "n". default is 16 times

SY Examine/modify all control characters used in chat and input modes. When accessed, 12 character values are shown, one at a time. Each can be changed by entering a new value or skipped by entering RETURN. The characters are shown in the following order
(control is represented by the @ sign)

Original value Function

ESC (27) Exit chat and insert modes
CR (13) Carriage return
LF (10) Linefeed is used to command a transmission
BS (8) Backspace character
@T (20) Retype buffer contents
@X (24) Clear buffer contents
@U (21) Delete current line
@C (3) Disconnect
@B (2) Connect
@R (18) Display one frame received since entry
@D (4) Revert to display mode without transmitting
@E (5) Send station identification in machine CW

INSTRUCTIONS FOR THE HARDWARE

I. Component Listing

<u>IC'S</u>	<u>Transistors</u>	<u>Capacitors</u>
Z1 = 4503B	Q1 = BC108B	C1,3,6,9,13,14, = 100 nF
Z2,3 = 4013B	Q2,4,5 = 2N3904	16,17,18,19 = 27 nF MYLAR
Z4 = XR2211	Q3 = 2N2222	C2 = 2.2 nF MYLAR
Z5 = XR2206		C4 = 10 nF
Z6 = 7805		C5 = 1 mfd TANT 35V
Z7 = Z80A CPU		C7,10 = 22 nF MYLAR
Z8 = 74HC32		C8 = 100 pf
Z9 = 74LS138		C11 = 10 mfd TANT 35V
Z10 = 4069		C12 = 470 mfd 16V Radial
Z11 = 6264		
Z12 = 2764 *		

Sockets (use only good quality it is worth it - save many headaches)

40 PINS = 1
 28 PINS = 2
 16 PINS = 3
 14 PINS = 5

* Please note this Eprom is to be blown
 by SAATI only (Licenced Software)

Resistors (1/4 watt 5%)

R1,24 = 4K7
 R2,5 = 470k
 R3,7,9,18, 25,26, 29,32,33,34 = 10K
 R4,8,10,11,12,38 = 100K
 R6,36 = 1M
 R13 = 27K
 R14 = 20K
 R16,17 = 47K
 R19 = 220E
 R27,28 = 2K2
 R20 = 15K
 R37 (1/2 watt) = 47E
 R22 = 30K

Trim pots

R15,21,23,30 = 10K
 10 turn BOURNS 3299

XTAL HC 18/U

3.5795 Mhz

Plugs A and B

Unshrouded headers = 2
 Solder Pins = 15
 2 x 5 way headerpins = 2

The plugs can be eliminated
 and wired directly to the DB
 connectors

Heavy duty heatsink for Z6

Use DB25s for the RS232 and a DB9s for the transceiver sockets

2. PLUG CONNECTIONS

PLUG A

1. Supply Gnd
2. Reset
3. PTT
4. *
5. Audio out (mic.)
6. Audio in (receiver)
7. +12v
8. Squelch (not required)
9. -----
10. Gnd

PLUG B

1. -----
2. -----
3. -----
4. Gnd
5. -----
6. CTS (out)
7. RTS (in)
8. RS232 out (Txd)
9. RS232 in (Rxd)
10. Gnd

* connect this pin to +12v (Plug A pin 7)

The DB connectors are mounted on your box.

DB9s (socket)

PIN

1. -----
2. -----
3. RECEIVER (audio in)
4. PTT
5. MIC (audio out)
6. GND
- 7,8,9 GND

DB25s (socket)

PIN

1. GND
2. RXD - in
3. TXD - out
4. RTS - in
5. CTS - out
6. ---
7. GND

ASSEMBLY

1. Assemble all the components per the component overlay except R13 and the IC's.
2. Power-up your SAATI tnc, test that the voltages are correct, Z4 and Z5 will have +12V and the rest +5V.
3. Disconnect power supply

TUNING of MODEM

1. Insert IC'S Z4 and Z5.
2. Connect a frequency counter to pin 5 plug A
3. Put +5V on pin 9 of Z5
4. Power-up your SAATI tnc
5. Adjust R21 for 2200 Hz
6. Disconnect the power supply
7. Remove the +5V on pin 9 of Z5 and ground pin 9
8. Power-up your SAATI tnc
9. Adjust R23 for 1200 Hz
10. Disconnect the power supply
11. Remove the frequency counter from pin 5 plug A
12. Connect a frequency counter to pin 13 of Z4
13. Ground pin 6 plug A
14. Power-up your SAATI tnc
13. Adjust R15 for 1700 Hz
14. Disconnect the power supply
15. Solder R13 in now.
16. Insert the rest of the IC's

STARTUP PROCEDURE

Refer to the section on software

— oOo —

NEW FEATURES

- OH** Will now display by means of a * the digipeater.
After a connect, the transmit buffer is displayed.
1. If the command **OH** is Enabled, all headers displayed from incoming packets will have the character * after all callsigns which are digipeating etc.
 2. Should there be any characters in the xmt. buffer when you connect to a station, these will be displayed on the screen when the TNC goes to "chat" mode. This is to remind you of these characters being there, just in case you don't want them. In this event, simply exit 'chat' mode, press **K** (kill) and then press **MS**. This will clear the characters and return you to 'chat' mode.

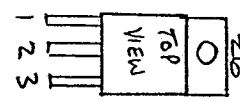
NEW COMMANDS

3. The new command **AP**, when Enabled, makes a Permanent connection to a station, once the connect has been established. When connected to a PBBS, for example, this will ensure that no spurious disconnection takes place should you be downloading a file for instance. To disable, exit 'chat' mode, type **AP D**, then **MS**.
4. The new command **FX**, when enabled, filters out all control characters received when in 'command' mode. All that is except CR, LF and TAB.
5. The new command **OR** when disabled, stops the display of all TNC generated messages e.g. disconnected, connected to, etc. This is very useful when downloading files.
6. Also, various parameters regarding the default settings i.e. the power-up settings, can be customized for the user at the time when the Eprom is 'blown'.
e.g. 1 The 'chat' mode ESC character can be changed to any other control character such as control Y. This is useful if your keyboard does not have the ESC character.
e.g. 2 The number of retries can be changed to any number up to 255.
e.g. 3 Most of the default 'mode' settings can be changed such as the repeat mode being ON or OFF.
7. The CW ID Feature has been removed, therefore the command **MI** does not exist.

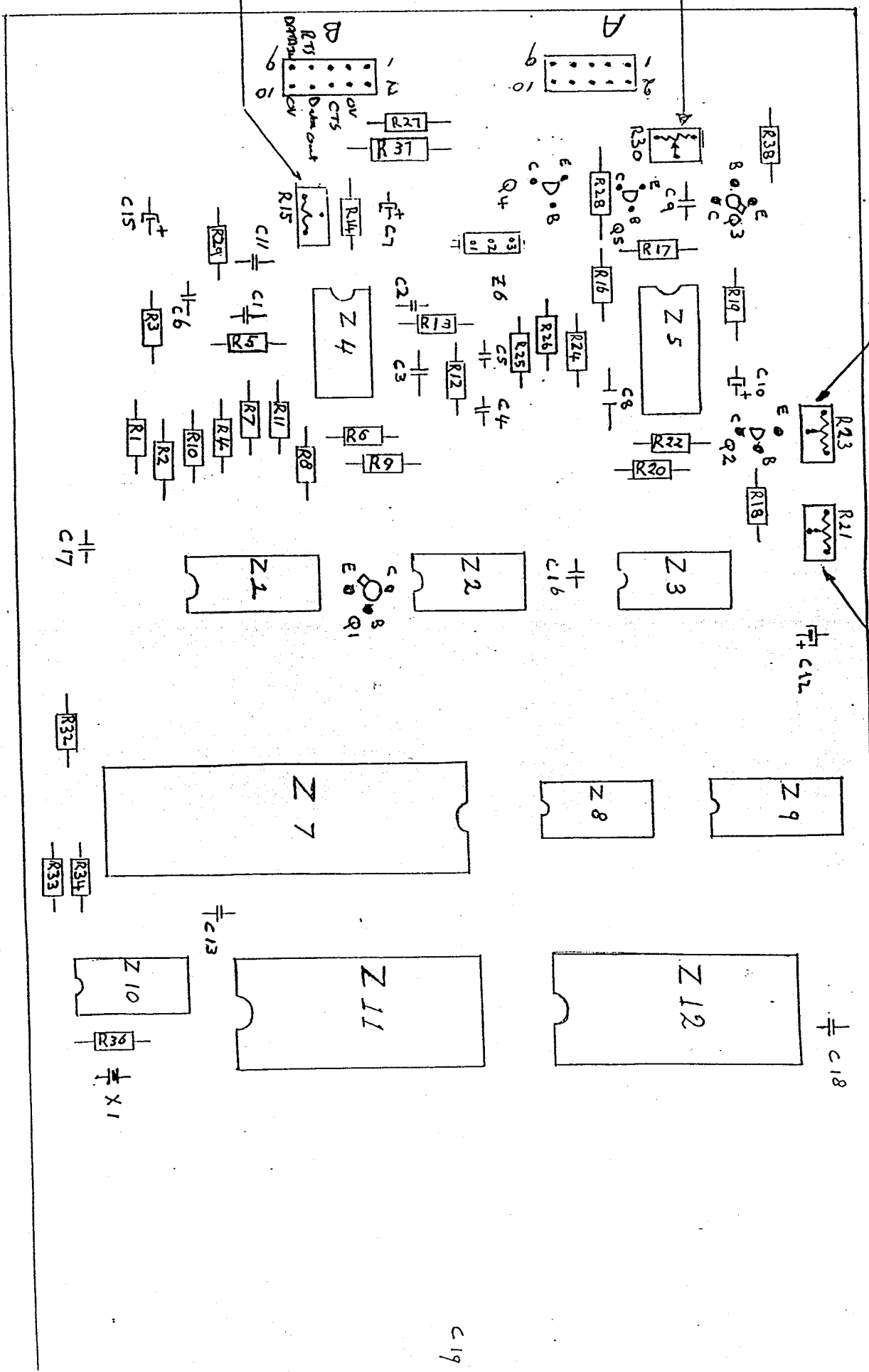
Set for 1200Hz

Set for 1100 Hz.

Audio output
SET TO
0.3 V RMS
OR LESS

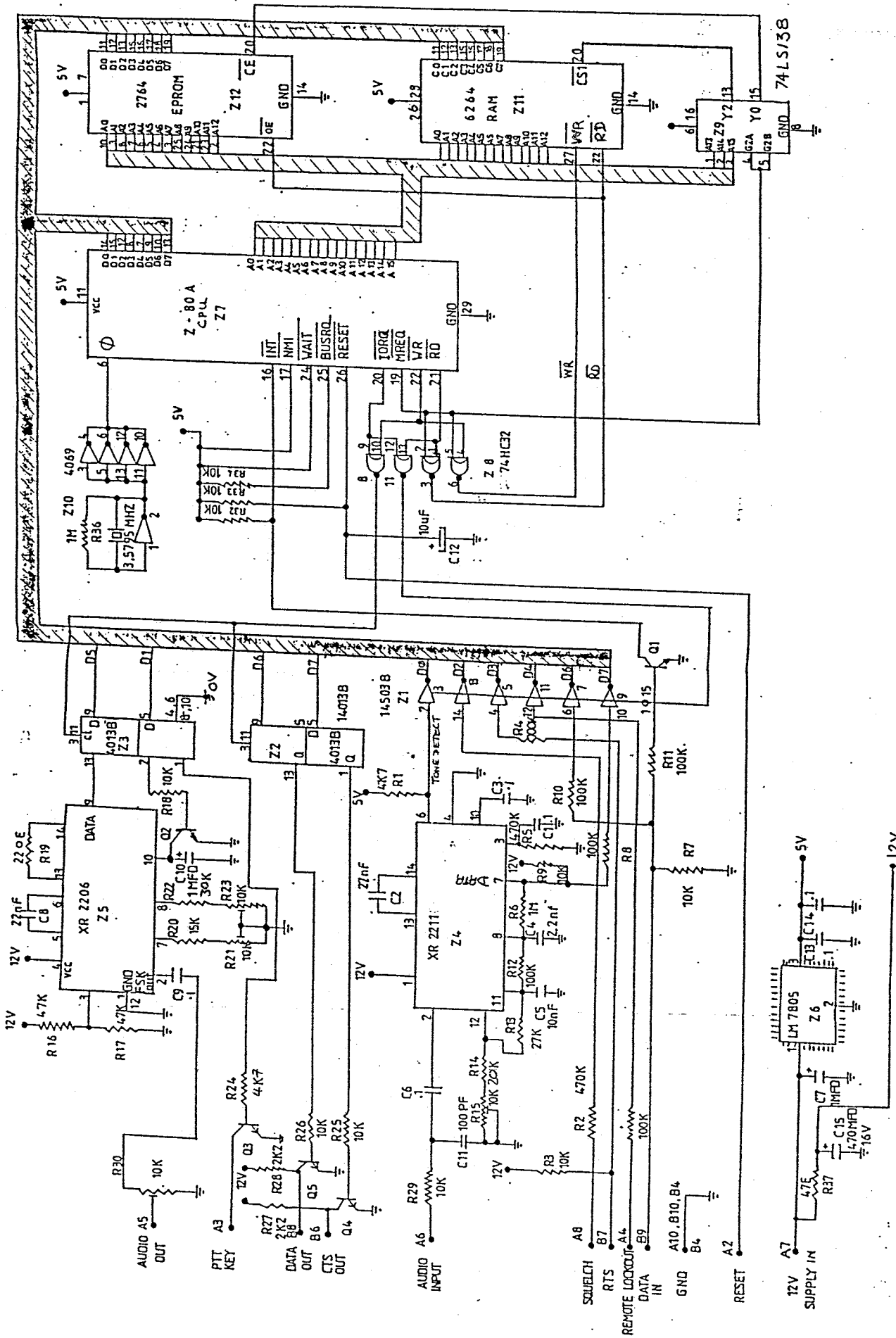


Preset Pot
for 1700Hz



COMPONENT OVERLAY

C19



SAATI TNC

COMMANDS

Commands are used to direct the SAATI tnc to transmit packets, set operating modes, control the display format and to change operating parameters.

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DIRECT COMMANDS

Require no additional information . Eg. "AT" means Automatic Transmit (causes the current message to be transmitted until acknowledged).

MODE-SETTING COMMANDS

Commands that set or reset operating modes are completed with either a D or an E (Disable or Enable).

COMMAND LISTING

AUTOMATIC OPERATING COMMANDS (Category A)

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AC	Initiate a connect request to another station
AD	Send a disconnect request
AH	Halt.Stop repeating an unacknowledged packet
AR	Resume sending (after a halt)
AS	Standby mode (no Receive or transmit)
AT	Transmit current packet until acknowledged
AW	Send a Wait acknowledge (RNR) to stop the other station
AX	Abort current transmission

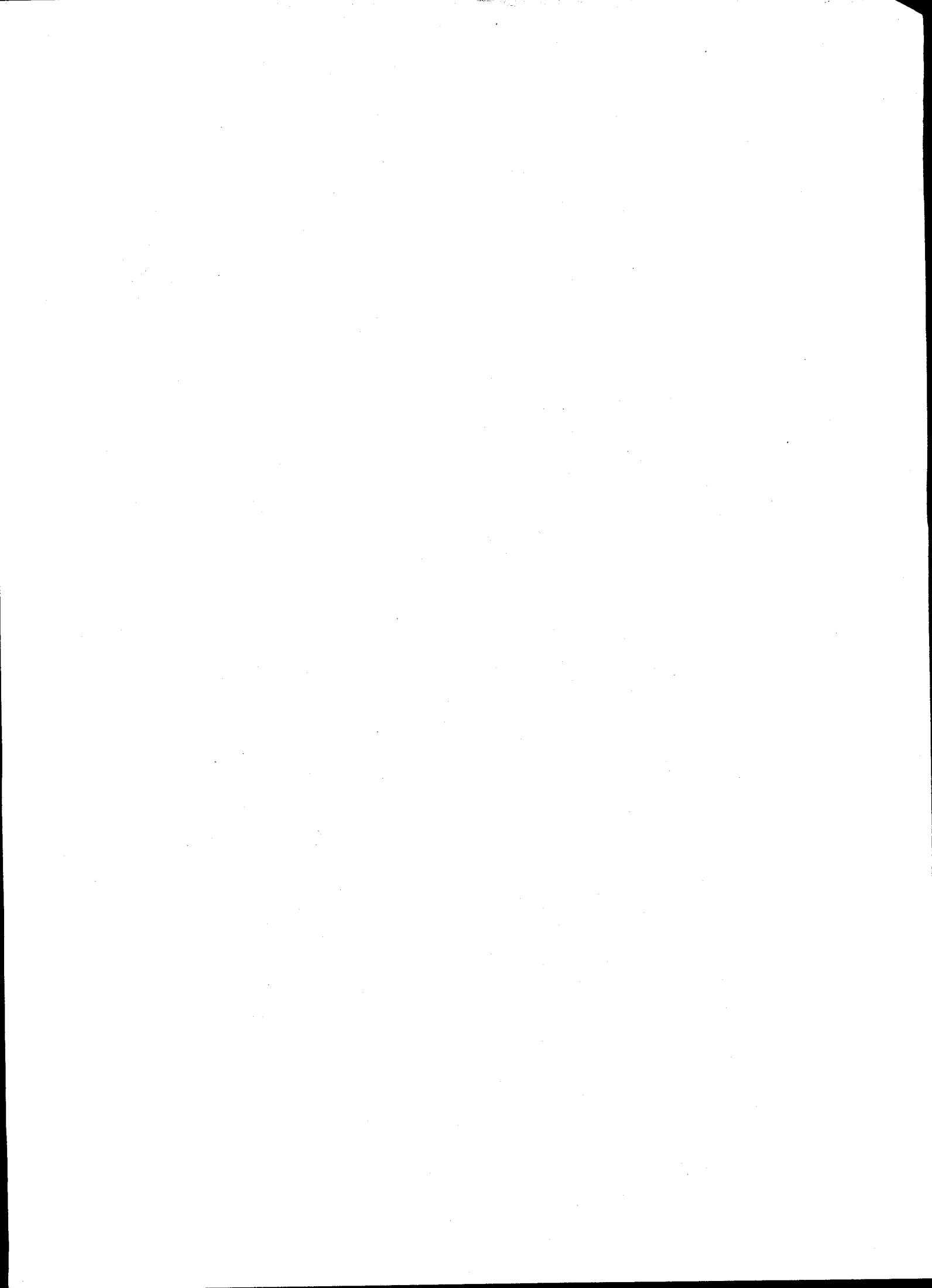
BEACON COMMANDS

BD	Enter a beacon destination
BK	Kill beacon message
BR	Recall beacon message
BS	Store a beacon message
BT	Set beacon timer
BV	Enter beacon digipeater call sign/s (Via)

DEBUG COMMANDS

DH	Transmit a 2200 Hz tone (High)
DL	Transmit a 1200 Hz tone (Low)
DO	Turn the test tone off

Note: always use DH then DL then DO.



MANUAL OPERATIONS (Category M)

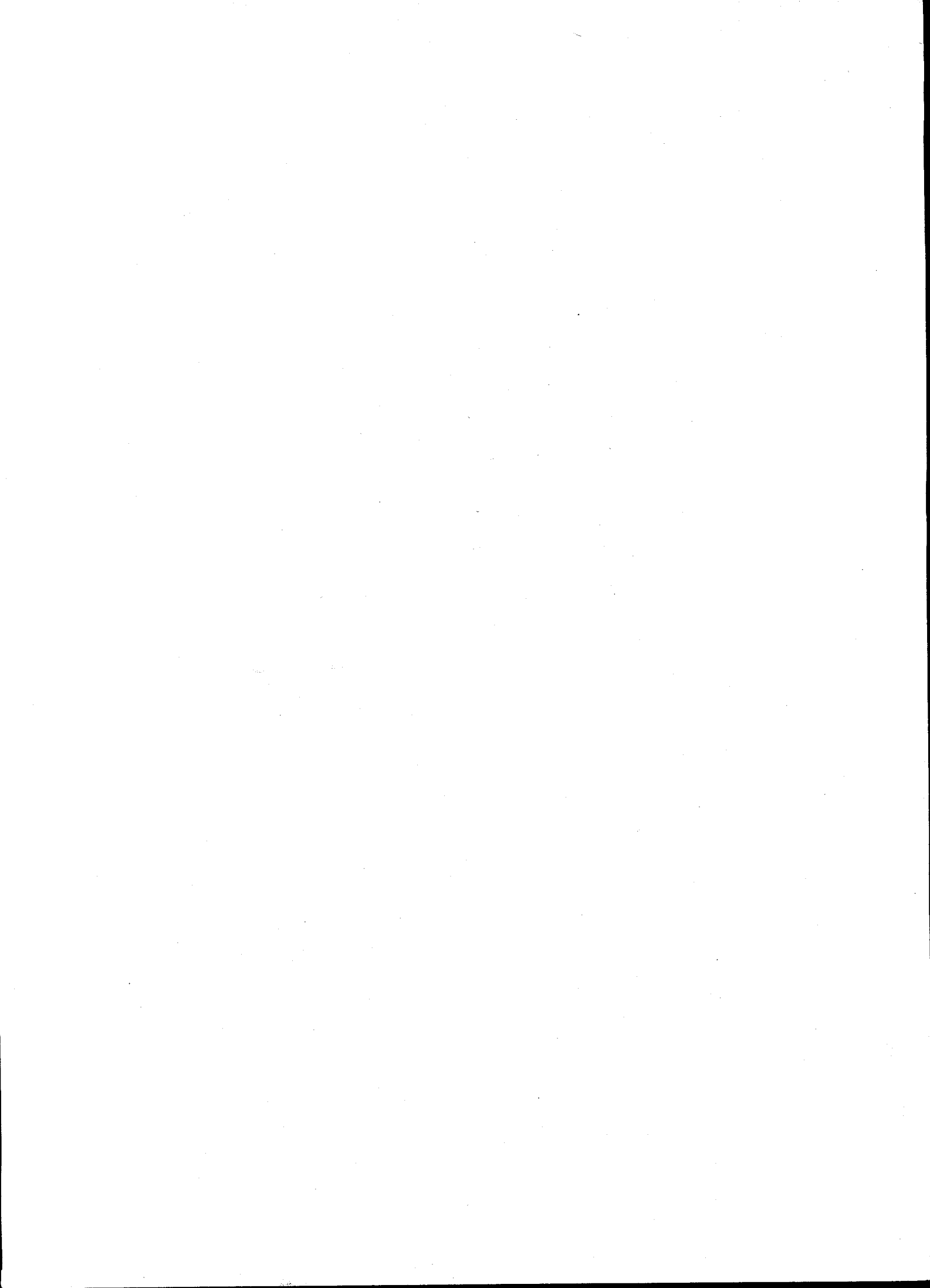
MA	Set address field to value "n"
MC	Set control field to value "n"
MD	Manually disconnect on our side
ME	Set transparent mode exit character
MF	Output automatic LF's after RETURN to other station in chat mode
MI	Transmit own call sign in CW
MK	Disable -ack- message in chat mode
ML	Enable automatic entry into chat or transparent mode
MM	Return number of 256-byte memory blocks available
MS	Enter chat or transparent mode
MT	Transmit info in transmit buffer
MU	Set unconnected mode
MV	Enable eavesdropping on repeated packets via your station
MX	Enable transparent mode
MR	Enable AX25 repeater function

INPUT / OUTPUT COMMANDS (Misc Categories)

I	Input data into beacon buffer
K	Kill contents of buffer
T	Type transmit buffer contents
OA	Receive packets only from pre-determined stations (2 max)
OB	Disable/Enable block mode
OC	Display info from other calling stations while connected
OD	Disable/Enable non-info data display
OF	Output one frame from the queue when OQ is enabled
OH	Disable/Enable header display
OI	Set value for chat mode timer
OK	Kill queue buffer contents
OL	Disable/Enable auto linefeed on carriage return
OM	Disable/Enable RTTY motor control mode
ON	Insert "n" nulls after a carriage return
OO	Disable/Enable connect-only mode to own station
OQ	Disable/Enable queue-up mode
OU	Disable/Enable status updates
OW	Limit page width to "n" characters

SET-UP COMMANDS (Category S)

S	Display system status
SB	Disable/Enable carrier backoff
SC	Set your callsign (Pre-programmed)
SD	Set Destination call sign
SE	Disable/Enable console echo
SF	Set length of preamble to "n" bytes
SG	Disable/Enable garbage mode
SH	Set highest number of frames per packet to "n"
SI	Re-Initialise to power-up values
SJ	Sets the "ON AIR" data link baud rate
SK	Set transparent mode time value to "n" fiftieths of a second
SL	Set maximum frame length to "n" characters
SM	Allocate "n" 256-byte blocks to transmit buffer



SN Set number of retries to "n"
 SP Set receive/transmit delay to "2n" milliseconds
 SQ Set value for T2 (connection timer), about 6 minutes
 SR Set number system to Binary, Decimal, Hex or Octal
 SS Set CW identifier speed (WPM)
 ST Set retry delay time to "n" tenths of a second
 SV Enter digipeater call sign
 SY Set control characters for Insert and Chat modes
 SZ Enable/Disable leading zeros

ADDITIONAL EXPLANATIONS ON CERTAIN COMMANDS

HEADER DISPLAY

S (RETURN) A request for the status of your SAATI inc.
 There are eight fields separated by a /, described from left to right.

Field

1. Link State

" " Explanation

- 1 Disconnect
- 2 Connected to (call sign)
- 3 Counted out, no Acknowledgment received
- 4 Acknowledgment received
- 5 Wait requested
- 6 Holding (our wait request acknowledged)
- 7 Holding

2. Own call sign and ssid if other than 0

3. Destination call sign and ssid if other than 0

4. Digipeater call sign and ssid if other than 0

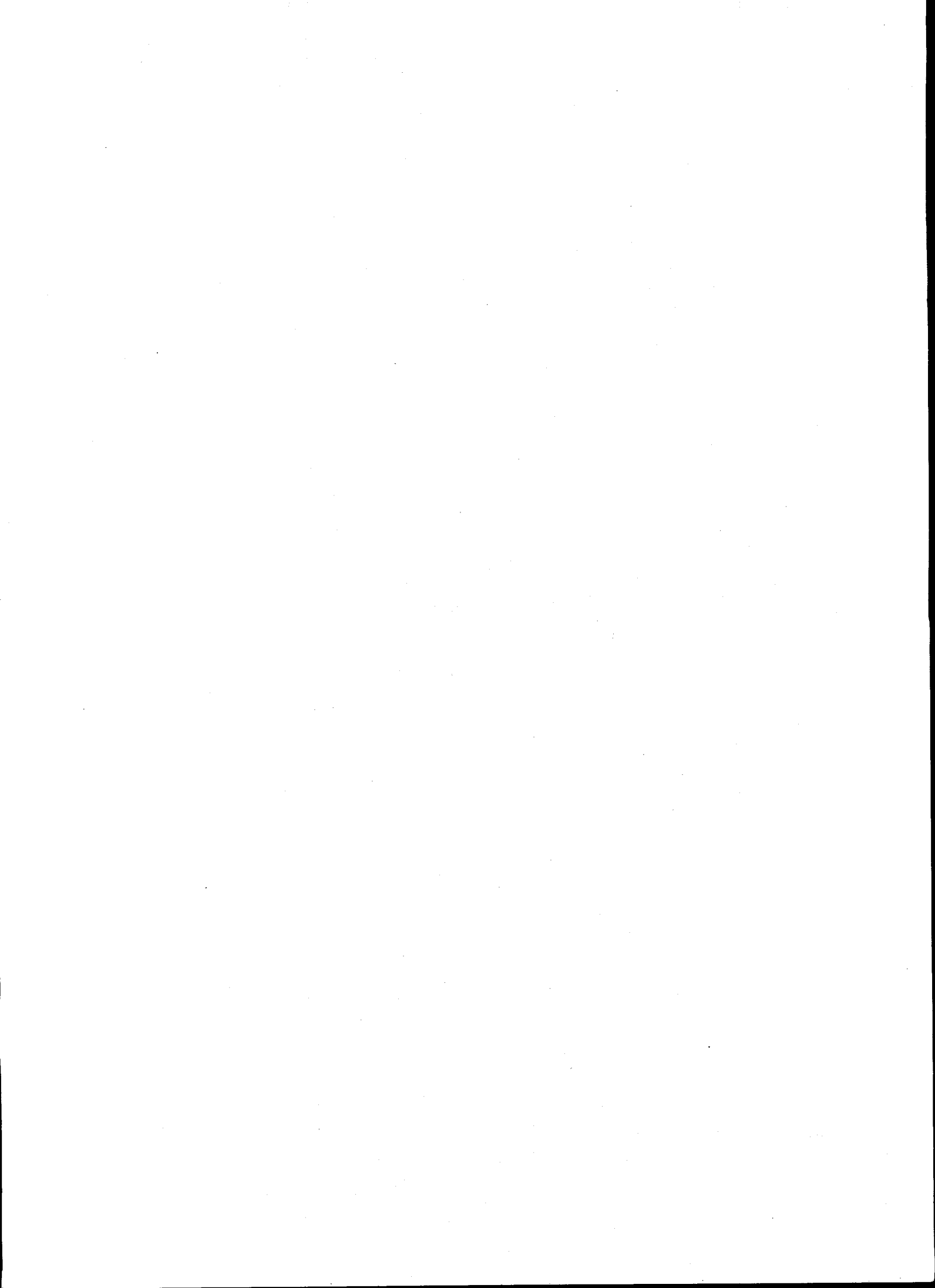
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- B Own end busy (memory full)
- W Own end busy via manual (AW) command
- X Holding for the other station, who has sent a wait request
- H Holding due to a manual command (AH)

6. A series of letters indicating output formatting modes

(the presence of a letter indicates the active state)

- M RTTY motor control
- B Block mode is enabled
- L Automatic linefeed is enabled
- O Connect-only mode is enabled
- H Header display is enabled
- D Non-info data display is enabled
- U Status update mode is enabled
- R *No TNC generated messages sent to screen.*



7. A series of letters indicating the following modes:

- C Baudot conversion is active
- U Uppercase mode
- B Carrier off
- G Garbage mode is enabled
- X AX.25 mode
- Q Queue mode is enabled
- E Terminal echo is enabled

8. A series of letters indicating the following modes:

- U Unconnected mode
- V Repeated packets via own station's eavesdropping
- R Digipeating(repeater) active
- L Automatic chat/transparent mode entry enabled
- F Sending auto linefeed in chat mode
- X Transparent mode enabled
- " Indicates there is data in the transmit buffer

9. A number indicating the beacon timer status (0 represents off)

COMMANDS

- SG Disable/Enable garbage mode. Disables error checking to allow all data thru channel for monitoring in unconnected mode.
- SJ(n) Set the "ON AIR" data link baud rate of the SAATI tnc computer. "n" is 3 for 300 baud, 6 for 600 baud and 12 for 1200 baud
- SN(n) Set the number of tries to "n". default is 16 times
- SY Examine/modify all control characters used in chat and input modes. When accessed, 12 character values are shown, one at a time. Each can be changed by entering a new value or skipped by entering RETURN. The characters are shown in the following order
(control is represented by the @ sign)

Original value Function

- ESC (27) Exit chat and insert modes
- CR (13) Carriage return
- LF (10) Linefeed is used to command a transmission
- BS (8) Backspace character
- @T (20) Retype buffer contents
- @X (24) Clear buffer contents
- @U (21) Delete current line
- @C (3) Disconnect
- @B (2) Connect
- @R (18) Display one frame received since entry
- @D (4) Revert to display mode without transmitting
- @E (5) Send station identification in machine CW



ASSEMBLY

1. Assemble all the components per the component overlay except R13 and the IC's.
2. Power-up your SAATI tnc, test that the voltages are correct, Z4 and Z5 will have +12V and the rest +5V.
3. Disconnect power supply

TUNING of MODEM

1. Insert IC'S Z4 and Z5.
2. Connect a frequency counter to pin 5 plug A
3. Put +5V on pin 9 of Z5
4. Power-up your SAATI tnc
5. Adjust R21 for 2200 Hz
6. Disconnect the power supply
7. Remove the +5V on pin 9 of Z5 and ground pin 9
8. Power-up your SAATI tnc
9. Adjust R23 for 1200 Hz
10. Disconnect the power supply
11. Remove the frequency counter from pin 5 plug A
12. Connect a frequency counter to pin ~~13~~ of Z4
13. Ground pin 6 plug A 3
14. Power-up your SAATI tnc
13. Adjust R15 for 1700 Hz
14. Disconnect the power supply
15. Solder R13 in now.
16. Insert the rest of the IC's

STARTUP PROCEDURE

Refer to the section on software

— oOo —

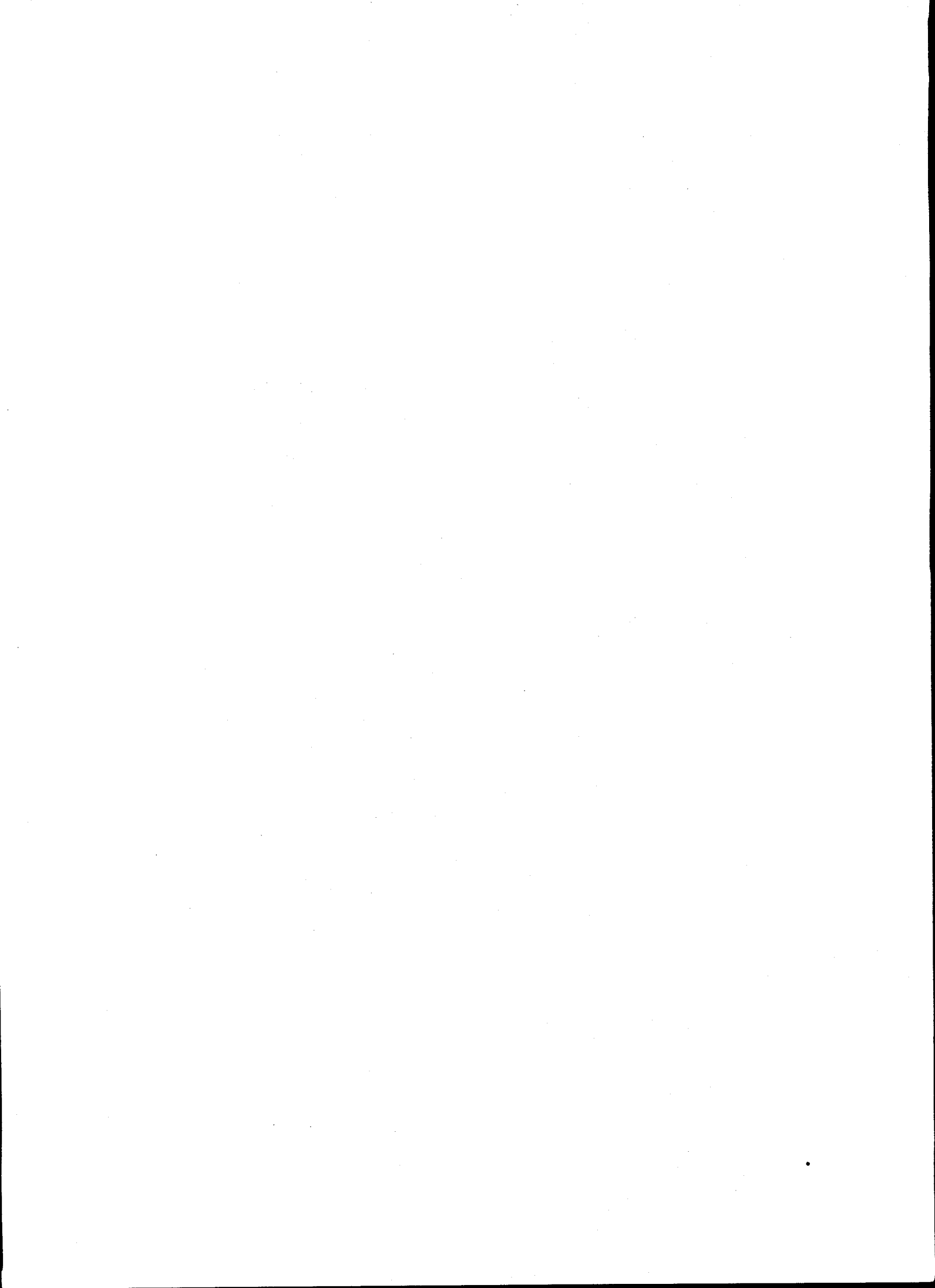


NEW FEATURES

- OH Will now display by means of a * the digipeater.
After a connect, the transmit buffer is displayed.
1. If the command OH is Enabled, all headers displayed from incoming packets will have the character * after all callsigns which are digipeating etc.
 2. Should there be any characters in the xmt. buffer when you connect to a station, these will be displayed on the screen when the TNC goes to "chat" mode. This is to remind you of these characters being there, just in case you don't want them. In this event, simply exit 'chat' mode, press K (kill) and then press MS. This will clear the characters and return you to 'chat' mode.

NEW COMMANDS

3. The new command AP, when Enabled, makes a Permanent connection to a station, once the connect has been established. When connected to a PBBS, for example, this will ensure that no spurious disconnection takes place should you be downloading a file for instance. To disable, exit 'chat' mode, type AP D, then MS.
4. The new command FX, when enabled, filters out all control characters received when in 'command' mode. All that is except CR, LF and TAB.
5. The new command OR when disabled, stops the display of all TNC generated messages e.g. disconnected, connected to, etc. This is very useful when downloading files.
6. Also, various parameters regarding the default settings i.e. the power-up settings, can be customized for the user at the time when the Eprom is 'blown'.
e.g. 1 The 'chat' mode ESC character can be changed to any other control character such as control Y. This is useful if your keyboard does not have the ESC character.
e.g. 2 The number of retries can be changed to any number up to 255.
e.g. 3 Most of the default 'mode' settings can be changed such as the repeat mode being ON or OFF.
7. The CW ID Feature has been removed, therefore the command MI does not exist.



INSTRUCTIONS FOR THE HARDWARE

I. Component Listing

<u>IC'S</u>	<u>Transistors</u>	<u>Capacitors</u>
-Z1 = 4503B2	-Q1 = BC108B	-C1,3,6,9,13,14, 16,17,18,19 = 100 nF ¹⁰
-Z2,3 = 4013B2	-Q2,4,5 = 2N3904	-C2 = 27 nF MYLAR ²
-Z4 = XR22111	-Q3 = 2N2222	-C4 = 2.2 nF MYLAR ²
Z5 = XR22061		-C5 = 10 nF ¹
Z6 = 7805 ₄		-C7,10 = 1 mfd TANT 35V ⁴ 3
Z7 = Z80A CPU _x		-C8 = 22 nF MYLAR ²
-Z8 = 74HC32		-C11 = 100 pf ¹
-Z9 = 74LS138		-C12 = 10 mfd TANT 35V ² 1
*Z10 = 4069 ^{pin}		-C15 = 470 mfd 16V Radial 1
-Z11 = 6264		
Z12 = 2764 *		

Sockets (use only good quality it is worth it - save many headaches)

40 PINS = 1
28 PINS = 2
16 PINS = 3
14 PINS = 5

* Please note this Eprom is to be blown
by SAATI only (Licenced Software)

Resistors (1/4 watt 5%)

R1,24 = 4K7
R2,5 = 470k
R3,7,9,18, 25,26, 29,32,33,34 = 10K
R4,8,10,11,12,38 = 100K
R6,36 = 1M
R13 = 27K
R14 = 20K
R16,17 = 47K
R19 = 220E
R27,28 = 2K2
R20 = 15K
R37 (1/2 watt) = 47E
R22 = 30K

Trim pots

R15,21,23,30 = 10K	-3.5795 Mhz
10 turn BOURNS 3299	

XTAL HC 18/U

Plugs A and B

Unshrouded headers = 2
Solder Pins = 15
2 x 5 way headerpins = 2

The plugs can be eliminated
and wired directly to the DB
connectors

Heavy duty heatsink for Z6

Use DB25s for the RS232 and a DB9s for the transceiver sockets

R3
R35

BBSIAPU

Comments on - 005

General

L: List MAZE headers

W what files

S send

R read

K kill

D Download

U upload

F Billing

B Page

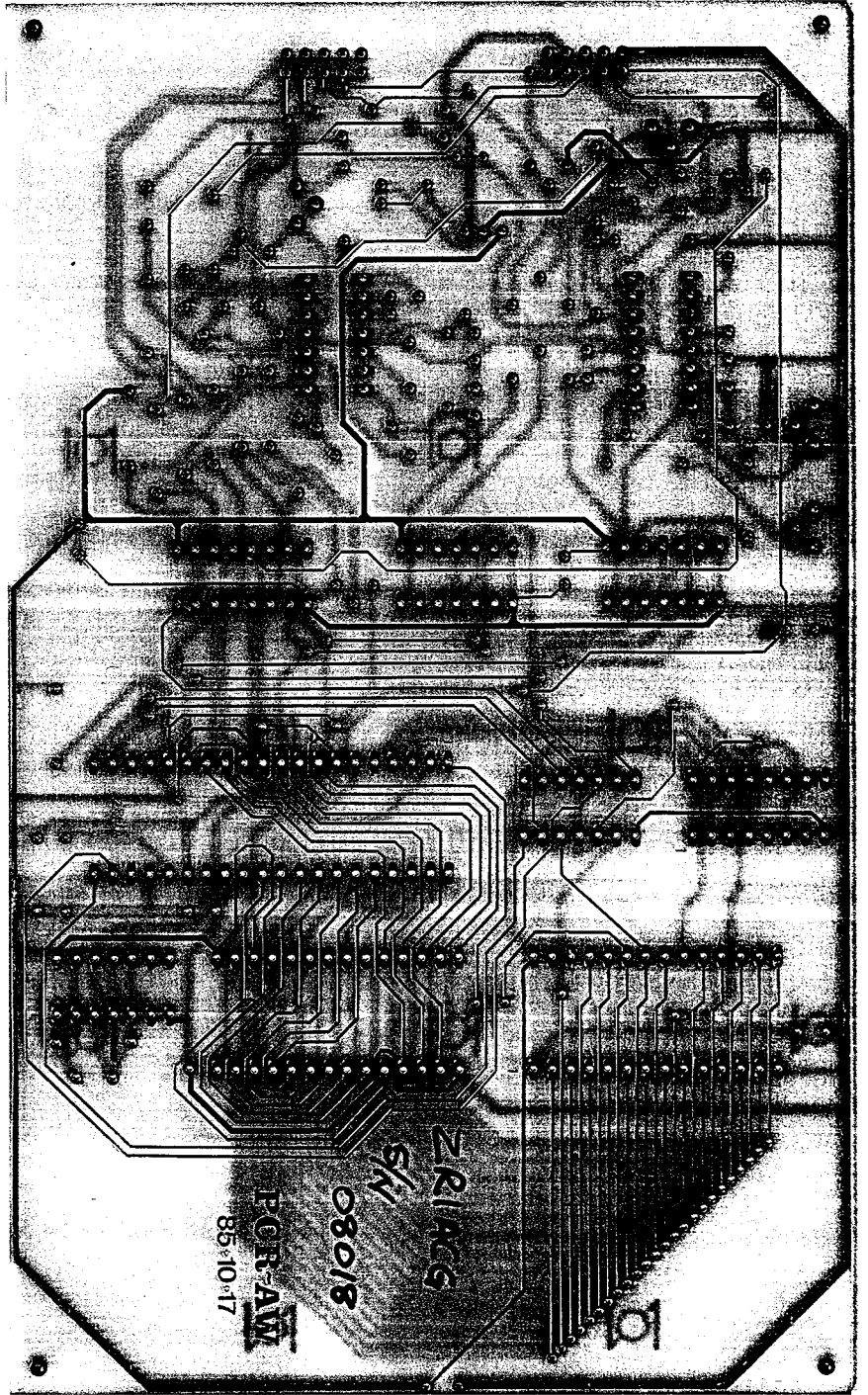
X xref

I Index

V Stats

S stats.head

T Talk to Guy



ZRIK6
S/N
08018
PGR-AM
85-10-17
10

