RLC-3 Field Programming Sheets - Quick Reference Section

USAGE DESCRIPTION Version 2.13

06-20-2003

000 XX,XY,XXY.....Y	Connect one Port X to another Port Y
001 XY,XY.....Y	Monitor one Port X from another Port Y
002 XX,XY,XXY.....Y	Disconnect one Port X from another Port Y
003 X	Interrogate where a Receiver is routed
004 X	Interrogate where a Transmitter is routed
005 X(port)Y(Input0-5)Z(dtmf 0-5)	Port's Access Mode Y & Z 0=No Access 1=COR 2=PL 3=COR&PL 4=CORorPL 5=Always Active (HF)
006 T,TRP,TRP....RP	Set or Recall a Receivers Priorities T=TX R=RX P=Priority (0-7)
007 X(port)M(0-3)B(0-1)	Set or Recall DTMF Mute for a port M=Mute(2=mute & cover 3=TX Off) B=Bypass X01=Restore
008 XY.....Y	SMART Connect "*" May be used for the port entering the DTMF command - will not connect to itself
009	Recall Entire Controller's Crosspoint
010 XXXYYYYYY	Re-Program Command Names XXX=CMD# Y=New Name 1 to 6 Digits
011 XXX	Interrogate & Recall information on a Command name by number
012 YYYYYY	Find & Recall Information about a Command name by name
013	Radio Port Card Conditions Ports not on System or Port Failure
~~014..017~~	~~***Not Active Yet***~~
~~018~~	~~***Not Active Yet***~~
~~019~~	~~***Not Active Yet***~~
020 XXXY,YY,YYY,YYYY	Program or Recall a Selected Timer X=Selected Timer Slot # - Y=Value Of Time To be Programed

000-007 = Message Start Delay Timer port1-8 10mS 001-999 - Default = 050
008-015 = Courtesy Beep Delay Timer port 1-8 10mS 001-999 - Default = 100
016-023 = Transmitter Hang Timer port 1-8 10mS 001-999 - Default= 200 (2 Sec.)
024-031 = DTMF Mute Timer port 1-8 10mS 001-999 - Default = 100 (1 Sec.)
032-039 = Do Not Mess With This Timer - Mother Board SPI Retry Timer (005) 50 mS
040-047 = Do Not Mess With This Timer - Mother Board SPI Time Out Timer (024) 240 mS
048 = I/O Polling Timer / 10 mS - Default = 100 (1 Sec.)
049-056 = Courtesy Beep after Voice - 1-8 10 mS 001-999 - Default = 100 (1 Sec.)
057 = RBI-1 Delayed Send Timer - 10 mS 001-999 - Default = 050 (½ Sec)
058 = HF Scan Delay Timer - 10 mS 001-999 - Default = 050 (½ Sec)
059 = Small DVR Timer - Automatically Set by the Controller
060-067 = Mini Hang Timer TX port 1-8- 10 mS 001-999 - Default = 050 (½ Sec)
068-075 = Keyup Delay Timer port 1-8 - 10 mS 001-999 - Default = 050 (½ Sec)
076 = Calculating Wind Speed timer 10 mS 001-999 - Default = 226 (2.26 Sec)
077 = Word Too Long Timer 10 mS 001-999 - Default = 150 (1½ Sec)
078-085 = Receiver Priority Mute 1-8 10 mS 001-999 - Default = 150 (1½ Sec)
100-107 = Impolite ID Timer port 1-8 / 1 Sec. 001-999 - Default = 020 (20 Sec.)
108-115 = Initial ID Timer port 1-8 / 1 Sec. 001-999 - Default = 600 (10 Min.)
116-123 = Pending ID Timer port 1-8 / 1 Sec. 001-999 - Default = 540 (9 Min.)
124-131 = Timeout Timers RX port 1-8 / 1 Sec. 001-999 - Default = 180 (3 Min.)
132-139 = Dial Tone Timer port 1-8 / 1 Sec. 001-999 - Default = 008 (8 Sec.)
140-147 = Preaccess Timer port 1-8 / 1 Sec. 001-999 - Default = 008 (8 Sec.)
148-163 = User Timers 00-15 (start with C022 stop with C023) (see appendix D)
164-171 = DTMF Interdigit Timer port 1-8 / 1 Sec 001-999 - Default = 005 (5 Sec.)
172 = Reverse Patch Ring Timer / 1 Sec. 001-999 - Default = 010 (10 Sec.)
173 = Ping Card Timer / 1 Sec. 001-999 - Default = 010 (10 Sec.)
174 = DVR Start Recording Timer / 1 Sec. 001-999 - Default = 010 (10 Sec.)
175 = DVR Record Length Limit / 1 Sec. 001-999 - Default = 030 (30 Sec.)
176-184 = Log on Timer port 1-8,S / 1 Sec. 001-999 - Default = 060 (60 Sec.)
185 = Beacon Timer / 1 Sec 000-999 - Default = 060 (60 Sec.)
186-193 = Tail Msg. Timer port 1-8 / 1 Sec. 000-999 - Default = 300 (5 Min.)
194-201 = Re-enable Keyup Delay 1-8 / 1 Sec. 000-999 - Default = 060 (60 Sec.)

021 XXX	Restart a Timer Value (Timer must be already running)
022 XXX or XXXY,YY,YYY	Start - Restart a Selected Timer - Insert A One Time Change of Timer Value
023 XXX	Stop a Selected Timer - See Command C020 for Timers
024 X(port0-8)Y(Speed)	Set Up the Controllers RS-232 Serial Baud Rate X:0=Main Y=300-19200 Port1-8 <9600
025 XX(Hours)YY(Min)Z	Sets the Time of Day Clock - Z is: 1 = PM , 0 = AM
026	Recall the Time of Day Clock in Male Speech
027	Recall the Time of Day Clock in Female Speech
028 XXYYZZD	Sets the Date - X=Month - Y=Day - Z=Year - D: 1=Sunday thru 7=Saturday
029	Recall the Date
030 YY....YY	Send a CW Message
031 YY....YY	Send a DTMF Sequence
032 Y.....Y	Send a Serial Message out the RLC-3 Mother Board Port
033 X(port)Y.....Y	Send a Serial Message out a Radio Card's Serial Port Y=Data
034 X(port)YYY...YYY	Send a Serial Message out a Radio Card's Serial Port Y=Decimal Data 000-255
035	Remotely Reset the Controller
036 YYY...YYY	Send a Voice Message
037 X,XX,XXX,XXXX,ie.	Set Audio Routing Variable for Commands Inside a Macro
038	Kill All Voice/CW Responses Following This Command in Macro
039	Recall the Ports in the Current Audio Routing Variable
040 LLLDDDXXXXYYYY	Send One, or Two Tone Chord L=Length 10mS 000-255 / D=Delay 10mS 000-255 / X=Tone 1 (0350 Hz) / Y=Tone 2 (1200 Hz) / Z=Tone 3 Not Active Yet
041 X(port)Y(0-2), A,H.T (0-1)	Courtesy Beep Enable/Disable for Selected Port Y 0=Never 1=Only Rpt. 2=& Even Links A(Autopatch) 1=Enable, H(HF Remote) 1=Enable, T(Timeout Timer) 0=After COR 1=After Courtesy Beep
042 X(port)YY(WPM)	Set CW Speed for a Selected Port Y=05-50 WPM
043 WXXXXYYYY	Set CW 2-Tone Chord Frequencies for Selected Port W=Port XYZ=(0000-9999 Hz)
044 WXXXXYYYY	Set Up DTMF Regenerate Parameters W=Port X=DTMF Length Y=Pause
045 SS,MMMXXTTTTNNYD..D	Setup & Recall Beacon Table S=Slot #, M=Macro, X=# of times, T=Time to wait, N=Next slot 01-50 0=stop, Y=Type of Beacon 0=radio port(s) 1=Beacon out of the autopatch, D=Audio Path or Phone number

046 SS(01-50) Start Beacon
047 Cancel Beacon
048 SS English_words Start Beacon Using English Words Example: 048 This_is_a_test_error_message - see 066
~~049~~ ~~Command Descriptions ***Not Active Yet***~~
050 SS(01-12)X.X(ports) Set Up Default Audio Routing Variables SS0=Clear Default/audio not to be sent anywhere
01-08 Cmds ent from Receivers 09=Serial 10=Automatic Macro/Event Trigger 11=Scheduler 12=I/O Alarm
051 Start Dial-Tone DTMF digit sent will kill dial tone on that port (see cmd 020)
~~052~~ ~~Command Descriptions ***Not Currently Used***~~
053 WWWXXXZZZ...ZZ Erase then Add a Command to Macro (Erase/New) W=Macro X=Command Z=Data Cmd uses
054 XXX Recall Macro Contents M=Macro#, N=# of Cmds, C=CMD, D=Digits of Data, ? Percentage Filled
055 XXX Delete Macro
056 WWWXXXZZZ...ZZ Append a Command to a Macro Same Entry type as C053
057 XXXYYY Copy a Macro X=Source Y=Destination
058 XXXYY Delete a Command in a Macro X=Macro # - Y= # of commands in the macro
059 XXXYYZZZDDD Insert a Command in a Macro X=Macro # - Y=New command location within the macro
Z=New command # for insert D=Data for the command
060 XYZQ MB Serial Port U/L Case & Linefeed X0=U Case 1=U/L Case Y=1 LF on 0=LF off (0111 default all)
Z=1 suppress serial by DTMF 0=send serial from DTMF Q=1 queued serial 0= send before cont.
061 X(port) Disconnect all Ports from a Radio Port
062 XXXYYYZ,ZZ,ZZZ Change the Beginning of Command Names X=First Cmd in Range Y=Last Cmd in Range
Z=New first digits for the range of cmds (062*000999# then cmds are #000-#999)
063 YYY...YYY Send a Polite Voice Message Kerchunk will interrupt msg. - Same as Cmd 036
064 XXXYYY...YYY Send a Polite Voice Message and if Interrupted Execute Command C=Cmd Y=Word
065 Restore the Audio Routing Variable (Undo 037 and 038)(Must be used within a macro.)
066 Voice_Text_English Send a Voice Message Using English Words Word List 000-685 or spelled if not in list
067 XXXDDY Macro to Accept Extra Data at Runtime (Exact or Minimum Length) X=Macro D=# of Data Digits
Y=Extra Digits 1=OK 0=No Extra Data Digits
068 X(port) Disconnect All Ports (But Leave Repeater Ports)
069 X(port)D.....D Send DTMF to a Specified Transmitter Port (the forced execution digit "d" can not be sent)
070 X(port) Configure a Repeater for Preaccess
071 X(port)Y(0-1)Z..Z Configure a Link for Preaccess Y:1=Dial Tone On 0=Off - Z=Site Access Code#
072 X Disable Preaccess Requirement for a Port Sets port back to factory defaults
073 Recall Ports with Preaccess Requirement
074 Allow Access To a Port that Requires Preaccess
075 P(port)XYZIF(0-1) Set Stop Access Conditions 0=Stop Access X=Cmd Exec Y=Cmd Invalid
Z=When COR Drops after DTMF entered I=When DTMF Interdigit Expires F=When Force Execution Digit is Pressed
076 P(port) Recall Stop Access Conditions
077 X(port) Isolate a Port from the Rest of the System
078 X(port1-9),CTE Recall / Set Command Entry 9=Serial is "!", C=Chain, T=Time, E=New Digit(D=Default) 0=Off
079 X(port1-9)CCCD..D Seed Command Buffer 8=Autopatch 9=Serial C=Command D=Data Digits see RE:"*" as up patch
080 XXXD..D Execute Command by Number With Out Regard to Name
~~081~~ ~~Command Description ***Not Currently Used***~~
082 XXYYYMM Set Up a Scheduler Event HOURLY X=Scheduler Slot# Y=Command # M=Min.
082 XXYYYHHMMP Set Up a Scheduler Event DAILY H=Hour P=0 AM 1 PM
082 XXYYYDHHMMP Set Up a Scheduler Event WEEKLY D=Day of Week 1=Sunday thru 7= Saturday
082 XXYYYDDHHMM Set Up a Scheduler Event MONTHLY D=Day of Month 01-31
082 XXYYYWWDHHMMP Set Up a Scheduler Event WEEK of MONTH W=Week (01-05) D=Day 1-7
082 XXYYYNNDDHHMMP Set Up a Scheduler Event YEARLY N=Month of the Year 01-12
083 XX Recall a Scheduler Event X=Slot S=On/Off C=cmd Freq 0=Year 1=Wk/mo 2=Day 3=Wkly 4=daily 5=hr
084 XX(slot)Y(0-1), XXxxY Enable/Disable a Scheduler Event or Range X=Slot - Y 0=Event Off 1=Event On
085 X(port)Y(0-1)C(0-1) Enable/Disable IDing a Port Y 0=ID Off - 1=ID On C=ID Type 0=Voice/Pending ID's 1=CW Impolite ID's
086 Recall Which Ports have IDs Enabled
087 X(port)Y(0-1) Set Random or Rotating Pending IDs 0=Rotating 1=Random
088 Recall Random or Rotating Pending ID Selection Voice will list Rotate
~~089~~ ~~Command Description ***Not Currently Used***~~
090 XY,Y..Y Read Whether Input Line is High or Low X=Board# (1or2) Y=Input line# (1-8)
091 XY,Y..Y Execute Input Line High or Low Macro X=Board# (1or2) Y=Input line# (1-8)
092 XYZQ* Enable/Disable Input Line Alarm X=Board Y=Line# Z:0=Low/1=High Q:0=Alarm Off 1=Alarm On
093 XY,Y..Y Turn Output Line On X=Board# (1or2) Y=Output line# (1-8)
094 XY,Y..Y Turn Output Line Off X=Board# (1or2) Y=Output line# (1-8)
095 XY,Y..Y Recall Whether Output Line is On or Off X=Board# (1or2) Y=Input line# (1-8)
096 0-1,XX(00-64),XX(0-1) Control/Recall Extended Output Lines 0=Off XX=Recall XX0=Extended Output line Off
(I/O Board 1 Open Collector Output Line 6=Latch 7=Clock 8=Data H/L)
~~097,098~~ ~~Command Description ***Not Currently Used***~~
~~099~~ ~~Command Description ***Not Currently Used***~~
100 XY,Y..Y Read Analog Input Line X=Board# (1or2) Y=Input line# (1-8)
101 XYZ Set Resolution For Analog Input X=Board# (1or2) Y=Input line# (1-8) Z=#Digits After Decimal Pt.
102-Command-See Below Set Conversion Ratio For Analog Input

Command	Description	Resolution
102 X Y N WWWW M ZZZZ	General Form	
102 X Y 1 0460 0 0440	Temperature	1 degree F (0)
102 X Y 1 0273 0 0227	Temperature	1 degree C (0)
102 X Y 0 0000 0 0005	(0)0 to 5 volts	1 volt (0)
102 X Y 0 0000 0 0050	(1)0 to 5 volts	1/10 volt (1)
102 X Y 0 0000 0 0500	0 to 5 volts	1/100 volt (2)
102 X Y 0 0000 0 0025	0 to 25 volts	1 volt (0)
102 X Y 0 0000 0 0250	0 to 25 volts	1/10 volt (1)
102 X Y 0 0000 0 2500	0 to 25 volts	1/100 volt (2)
102 X Y 0 0000 0 0100	0 to 100 %	1 percent (0)
102 X Y 0 0000 0 0360	0 to 360 deg	1 degree (0)

Format:- C101 is the default command name.
X - is the I/O Board Number (1-2)
Y - is the Analog Input Number (1-8)
N - is 1 for negative, 0 for positive for the following number
W - is the reading with a 0 volt input with leading 0s if necessary-
M - is 1 for negative, 0 for positive for the following number
Z - is the reading with a 5 volt input to the processor with leading 0s if necessary. If the voltage divider on the I/O board is turned on, this is the reading with a 25 volt input.

103	XYNWWWW	Calibrate an Analog Input XY2=Reset
104	XYANWWWW	Set an Analog Alarm A:0=Alarm Low 1=Alarm High
105	XYWWWW	Set Analog Alarm Hysteresis
106	XYAE	Enable/Disable an Analog Alarm A:0=Alarm Low 1=High E:0=Disable 1=Enable
107	X	Recall Analog Lines in Alarm
108	XY	Recall Analog Line Configuration X,Y,W,Z,Calibrate,A0,A1,Hysteresis,A0 on/off, A1 on/off
109	XX(I/O #1=01-08 #2=9-16)	Pulse Input Line Counter Anemometer-Wind Speed Counter - Counts Contact Closures I/O #1=Board 1
110	X(port)Y(0-4)	Configure the Autopatch 0=No Read Back 1=Read All# 2=Read and must be kerchunked before, during or shortly after number readback to dial 3=Read Back and stop dial if kerchunked 4=Polite Readback Dials with or with out Kerchunk ***Sets Force Exec. Digit to " # " (Use 078 if change is needed)***
111		Manual Off Hook **Off Hook Patch Timer Reset**
112	XXX,orYYY...YYYY	Normal Forward Dial X=Autodial Slot (000-999) or Y=11digit Phone # **053xxx03018**
113	XXX,orYYY...YYYY	Forward Dial w/no Long Distance Checking X=Autodial Slot or Y=11digit # **053xxx038**
114		Hang up the Autopatch **053xxx022131**
115		Hang up From Only Ports That Are Connected and That Can Hear Autopatch **010xxx**3**
116	0,IIIAAAD...D	Set and Recall Predial Digits and Timing 0=Recall I=Initial Delay 10mS A=After predial 10mS D=Any up to 10 digits for predial
~~117~~		~~Command Description ***Not Currently Used***~~
~~118~~		~~Command Description ***Not Currently Used***~~
119	SSS,SSSN..N	Clear Slot / Set Allowed Prefix Slot S=Slot # N=Area Code/Prefix #=Wildcard digits
120	SSS(000-499)	Recall Allowed Prefix Slot
121	SSS,SSS(000-099)N..N	Clear Slot / Set Nuisance Number Slot S=Slot # N=Area Code/Prefix #=Wildcard digits
122	SSS(000-099)	Recall Nuisance Number Slot
123	N..N	Test Dialing Tables N=Number with Dialing Table
124	SSS(000-999)N..N	Set - Program Autodial Slot S=Slot # N=Up to any 18 Digit Phone #
125	SSS(000-999)	Recall Autodial Slot
126	SSS(000-999)X(0-1)C(0-1)	Set Whether to Send Predial Digits for Autodial Slot and Call Sign S=Slot # X 0=No 1=Send Predial C 1=Call Sign of user assigned to slot sent 0=Autodial slot number is sent
127	SSS(000-999)X(0-1)	Autodial Slot S=Slot # X: 0=Disable 1=Enable Slot
128	X(port)YY	Set & Recall Half-Full Duplex Mode For a port Y: 00= Full Duplex 10= Half Duplex Not Simi- Private 11=Half Duplex Simi Private 12=Half Duplex Simi Private with Cover Tone X only=Recall
129	,X,X0	Redial Last Number / With Data - Recalls Last Number Dialed from Specified Port
130	PCCC,&DDD or CCC	Block / Recall Command Execution From Port P=port C=Cmd Range Low# D=Cmd Range High#
131	PCCC,&DDD or CCC	Allow / Recall Command Execution From Port P=port C=Cmd Range Low# D=Cmd Range High#
132	XXX(000-999)	Directed Reverse Autopatch Mode 2 Speaks Call sign, Sets Forced Execution to #, W/O Data=GenCall
133	0	Disable Reverse Patch Mode
	1 XX(Rings)Y....Y	Ring Over the Air Mode After XX rings Y=Ports (Does not Answer Phone Unless CMD 135 is used)
	2 XX(Rings)N....N(Optional)	Control Mode 2 29 seconds to enter access code N..N and 134(DTMF "ABCD" will have to be renamed) If No Password is Used Access Step is Skipped
134		Accesss Reverse Patch Control Mode (for the controllers internal use)
135		Answer a Reverse Autopatch over the air (must be ringing to answer)(or mode 2 if 132 also used)
136		Recall / Reverse Autopatch Ring G=Maximum Number or Rings CMD 132 Uses for General Call Out
	GG,DD	D=Maximum Number of Rings After Done Speaking User # for the Directed Reverse Autopatch (at the End of 132)
	XXXYYYYZZZZ	X=Ring Length Y=Tone 1 Freq 0660 Hz Z=Tone 2 Freq 1000 Hz
137	XXX(000-999)	Dial a Autodial Slot Number
138	P(port)XX...XX	Direct SPI Send out of Radio Card's Serial Port a Hex number 00-FF (byte of data) (TTL Only for BCD Out)
139	C SS or 000	Setup RBI-1 / RLC - Icom 900/901 Interface 000= Default for the RBI-1 C=Connector 1-4 SS=Set Up Code - Band Offset TX/RX 28MHz=00 50MHz=05 140-160MHz=10 20MHz=15 430-440MHz=20 1200MHz=25 OFFSET: 100KHz=30 500KHz=35 600KHz=40 1MHz=45 1.6MHz=50 1.7MHz=55 5MHz=60 12MHz=65 20MHz=70 Transceive Enable=85 Receive Only=90 Disable Module=95
140	P(port)	Set a Port for RBI-1 (must be set for RBI-1 commands to work)
141	X,X(0-1)	Control / Recall RBI-1 Output Lines x=recall x0=Output Off x1=Output On
142	XXXXXXY	RBI-1 or RLC-ICM Set Frequency X=New Frequency(MHz,100KHZ,10KHz) Y=Optional Offset
143	X(0-3)	RBI-1 or RLC-ICM Set Offset Format 0 0=-,1=+,2=Simp,3=-20 Format 1 0=-20,1=-,2=Simp,3=+
144	X,Y(0-1)	RBI-1 or RLC-ICM Set Offset Format X=Recall"*" 0=Format 1, Y 0=Disables Freq Read Back
145	X(0-2)	RBI-1 Set RF Power Level 0=Low 1=Medium 2=High
146	XXXX	RBI-1 or RLC-ICM Set PL Tone Freq. 67.0= 67,670,6700 / 250.3=250,2503 RLC-ICM=33.0/254.1
147	X(0-1)	RBI-1 or RLC-ICM Turn PL Encode Off / On 0=Off 1=On
148	X(0-1)	RBI-1 or RLC-ICM Turn PL Decode Off / On 0=Off 1=On
149		RBI-1 or RLC-ICM Recall Band, Frequency, and Offset Voice Response XXX.YYY O
150		RBI-1 or RLC-ICM Recall ALL RBI-1 Settings Port,Freq.,Offset,Power,PL,PL-TX,PL-RX
151	X	RBI-1 Turn Radio Power On or Off 0=Off 1+On
152	X..X	RBI-1 Goto Radio Memory X=Memory Channel supported by the radio
~~153~~		~~Command Description ***Not Currently Used***~~
~~154~~		~~Command Description ***Not Currently Used***~~
155	P(port)F(0-1)	PTT Enable or Disable 0=PTT Line Off 1=PTT Line On (Default)
156		Recall which PTT Lines are Enabled
157	,YYY(000-293)ZZZ	Event Macro Assign / Recall Y=Event Number (See Event Table) Z=Command Number
158	XXX	Execute Default Event Trigger Action (Should Never Be Called Directly or Never From Macro)
159	XXX(000-293)Y(0-1)	Event Macro Enable/Disable 0=Off 1=On
160	I(1-2)H(0-2)L(1-8)	Clear Analog Highs/Lows I=I/O Board H:0=Low 1=High 2=Both L=I/O Line
161	I(1-2)L(1-8)XX(time)	Set Analog Smoothing 50=9Sec,60=13,70=18,80=30,90=50,95=120,97=220,98=325,99=11Min
162	Y.....Y	Always Send a Serial Message out the Mother Board Port Impolite - Like C032
163	X....X	Keypad Test to Check DTMF Digits "*"=S "#"=P
164		Recall Controllers Software Version
165		Reset COP Watchdog Timer COP=Computer Operating Properly - Macro too long causes reset
166	S	Display Status Screen not active - Formatted Screens of Serial Information out the Mother Board Port

167 Do Nothing Returns the OK Error Code - default command to execute commands like C164

~~168~~ ~~Command Description ***Not Currently Used***~~ See CMD 005

169 CCC...CCC Always Send Serial out Main Serial Port by ASCII Code 032 ie.

170 DVR - Record and Play Audio Test

171 T,TT,TTT DVR - Record Track (Non-Prompted)

172 T,TT,TTT DVR - Record Track (Prompted)

173 TTT,T..T,TTT..TTT DVR - Play Tracks TTT=Play Single T..T=Play Multiple TTT...TTT...=Play Multiple Separate
DVR-1 Polite Messages Requires DVR-1 to have 1.50 Version Firmware to be installed in the DVR-1Example of usage: 056XXX036 801 056XXX171TTT,T..T,TTT...TTT 056XXX036802 -or- 056XXX036803YYY

174 TTT,T..T,TTT...TTT DVR - Erase Tracks TTT=Single T.T=Multi in a row TTT...TTT=Start thru Finish

175 DVR - Record Public Mail

176 DVR - Check Public Mail

177 S(1-9) DVR - Retrieve Public Mail

178 DVR - Erase Public Mail Erases only the last message that was retrieved

179 SSS DVR - Record Private Mail SSS=number of the mail box to leave message in

180 SSS DVR - Retrieve Private Mail SSS=Number of the Mail Box to get the mail from

181 DVR - Erase Private Mail Erases ALL the contents of a mail box that was retrieved

182 X DVR - Select DVR Type 0=None Installed 1=Large DVR Installed 2=Small DVR Installed

183 SS,SS..EE dvr - Record a Message on the Small DVR SS=Start Slot Number EE=End Slot (optional)

184 S,SS,SS..SS dvr - Playback a Small DVR Message S=Single 0-9 SS=Single 00-34 SS..SS=Multi 00-34

185 SS,SS..EE dvr - Erase Small DVR Message SS=Slot to erase SS(start)..EE(end)=Multi-EE(optional)

186 UUU,E,L,T,P..P Set Up User Password U=User # E=Enable/Disable L=Level 1-7 T=Type 0=none/fixed 1-8=Digits of Challenge Passwords P..P=Password (a maximum of up to 8 digits 0-9 & A-D can be used)
186 UUU=Recalls Password Info for a User (It is not a good idea broadcast this info over the air)
Enable the Security Password System - Level 0=186 000 1 0 Level 2=186 000 12 Disable=18600017

187 UUUP..P User Log-On U=User Number P=Password (7 to 4 Decoy Digits can be added with type 1-4 Challenged Password Entry requests - A Maximum of 8 Password Digits for Entry is Allowed)

188 Recall the User that is Currently Logged Into the Controller

189 User Log-Off

190 CCC,L or CCCEEE,L Assign a User Level to a Command CCC=Recall CCCL=Assign EEE=End of Range of Cmds

191 UUU, or UUUWWW...WWW Assign / Recall a Callsign to a User U=User # W=Words from word list - there is a 8 word max

192 0000 Recall Reverse Patch General Call-Out Settings Use With Command 132

00000 Disable General Call-Out

00001X..X Enable General Call- Out to Ports X=Ports 1-8

0UUU Recall Directed Call-Out Settings for User

0UUU0 Disable Directed Call-Out to user U & V =User Number

0UUU1X..X Enable Directed Call-Out to User On Ports

1UUUVVV Recall Settings for Range of Users UUU-VVV

1UUUVVV0 Disable Directed Call-Out for Users UUU-VVV

1UUUVVV1X..X Enable Directed Call-Out for Users UUU-VVV on Ports

~~193~~ ~~Command Description ***Not Currently Used***~~

~~194~~ ~~Command Description ***Not Currently Used***~~

195 D(0-3)P Configure HF Mode 0=Disable 1=Enable/P=Prefix digit 2=HF Off w/o disabling 3=Recall Settings

196 0,PRX.XX Configure HF Radio 0=Recall Config, P=Port, R=Rig Manf/1=Icom 2=Kenwood 3=Yaesu, X=Rig Model
Icom 735=04 R7000=08 275=16 375=18 475=20 575=22 1275=24 R71=26 751=28 761=30 271=32 471=34 1271=36 781=38 725=40 R9000=42 765=44 970=46 726=48 R72=50 7100=52 706=72 706MIIG=78 746=86 XX..Other
Kenwood 450,570,690,850,870,950 and other recent radios=0 TS-50,140,440,440S,680,711,790A,811, 940,R5000 and other early radios=1
Yaesu 736=0 757=1 767=2 747,890,900,990,FT1000=3 Not Supported are 727 and FRG8800

197E(0-1),C(Nov=0 Extra=4) Set/Recall Transmit/Scan Band Edges E=Recall Band Edges C=Set Bands-Class of License

EBB(00-15) Recall Edges for One Band BB 00=160 01=80 02=40 03=30 04=20 05=17 06=15 07=12 08=28 09=29 10=6 11=2 12=1.25cm 13=70cm 14=33cm 15=23cm 16=user defined

EBBC Set Edges for One Band for a Class

EBBUF..F*F..F Set Upper or Lower Edge for One Band to a Specific Frequency U 0=Lower Edge / 1=Upper Edge F=Frequency *=Separator between Mhz and Khz

198 HF Mode Enable Turns on the re-defined HF DTMF Remote access Keyboard Pad

P(prefix),D.....D(dtmf data) "DTMF Keypad Commands" Example: Recall Mem Channel = P(prefix),5(recall),00-99(Mem Ch #'s), Direct Frequency Entry = P(prefix)29*600 & unkey or force frequency entry with the # key
1 = Remote in RECEIVE ONLY or with Added Data Digit 1=USB 2=LSB 3=AM 4=FM 5=CW
2 = RECEIVE and TRANSMIT ON or with Added Data Digit(s) 1=Toggle PL RX 2=Toggle PL TX 3=PL off 8=Recall PL <Hz>=Set PL Frequency
3 = HF MODE OFF/Exit HF Mode - Receive and Transmit Off
4 = Remote Down 100 Hz or Added Data Digits <XXX>=Macro Cmd example: 026 recalls the time
5 = Select VFO A or Added Data Digits Recall Memory Channel ## 00..99
6 = Remote Up 100 Hz
7 = Remote Down 500 Hz or added data Start Scan 1=Down Slow 3=Up Slow 4=Down Med. 6=Up Med. 7=Down Fast 9=Up Fast
8 = Recall Frequency of current VFO or Added Data Digit(s) 0=Offset Off 1=Offset On 11=Minus Offset 10=Plus Offset 1X(0-1)Y X=Offset Direction 0=Plus 1=Minus, Y=Set Size of Offset for this Band 0=0 1=100Khz 2=500Khz 3=600Khz 4=1Mhz 5=1.6Mhz 7=5Mhz 8=12Mhz 9=20Mhz
9 = Remote Up 500 Hz
0 = Select VFO B or Added Data Digits Write Memory Channel ## 00..99
* = Frequency <POINT> Key
# = ENTER / Force-Execution Digit
A = Remote Up 20 Hz
B = Remote Down 20 Hz
C = Not Defined
D = Not Defined

199PH..H Enter HF Command w/o being in HF Mode P=Prefix H=HF Keypad 198 commands

200..499 Execute an Internal Macro (can be utilized as user macros)

500..999 Execute a User Macro

Automatic Macro Numbers

200 - Command Length not Matched
201 - Too Few Data Digits Entered
202 - Too Many Data Digits Entered
203 - Invalid # of Data Digits Entered
204 - Execution Blocked From This Port
205 - User Level to Low to Execute Cmd
206 - Macro Reserved for Internal Use
207 - Command Executed OK
208 - Internal Error Just Occurred
209 - Nested Macro Depth Limit Reached
210 - Invalid Value Entered
211 - Command Doesn't Exist

212 - Bad Autopatch Number
213 - General Autopatch Error

214 - User Requested Disabled- Invalid

215 - Digital Voice Recorder is Busy

216 - Macro Is Full

217 - HF Error

218 - Reserved
219 - Reserved

220 - Initial ID Port 1
221 - Initial ID Port 2
222 - Initial ID Port 3
223 - Initial ID Port 4
224 - Initial ID Port 5
225 - Initial ID Port 6
226 - Initial ID Port 7
227 - Initial ID Port 8

228 - Pending ID #1 Port 1
229 - Pending ID #1 Port 2
230 - Pending ID #1 Port 3
231 - Pending ID #1 Port 4
232 - Pending ID #1 Port 5
233 - Pending ID #1 Port 6
234 - Pending ID #1 Port 7
235 - Pending ID #1 Port 8

236 - Pending ID #2 Port 1
237 - Pending ID #2 Port 2
238 - Pending ID #2 Port 3
239 - Pending ID #2 Port 4
240 - Pending ID #2 Port 5
241 - Pending ID #2 Port 6
242 - Pending ID #2 Port 7
243 - Pending ID #2 Port 8

244 - Pending ID #3 Port 1
245 - Pending ID #3 Port 2
246 - Pending ID #3 Port 3
247 - Pending ID #3 Port 4
248 - Pending ID #3 Port 5
249 - Pending ID #3 Port 6
250 - Pending ID #3 Port 7
251 - Pending ID #3 Port 8

252 - Pending ID #4 Port 1
253 - Pending ID #4 Port 2
254 - Pending ID #4 Port 3
255 - Pending ID #4 Port 4
256 - Pending ID #4 Port 5
257 - Pending ID #4 Port 6
258 - Pending ID #4 Port 7
259 - Pending ID #4 Port 8

260 - Impolite ID Port 1
261 - Impolite ID Port 2
262 - Impolite ID Port 3
263 - Impolite ID Port 4
264 - Impolite ID Port 5
265 - Impolite ID Port 6
266 - Impolite ID Port 7
267 - Impolite ID Port 8

268 Courtesy Beep Command Slot Port 1
269 Courtesy Beep Command Slot Port 2
270 Courtesy Beep Command Slot Port 3
271 Courtesy Beep Command Slot Port 4
272 Courtesy Beep Command Slot Port 5
273 Courtesy Beep Command Slot Port 6
274 Courtesy Beep Command Slot Port 7
275 Courtesy Beep Command Slot Port 8

276 - I/O #1 Analog High Alarm #1
277 - I/O #1 Analog High Alarm #2
278 - I/O #1 Analog High Alarm #3
279 - I/O #1 Analog High Alarm #4
280 - I/O #1 Analog High Alarm #5
281 - I/O #1 Analog High Alarm #6
282 - I/O #1 Analog High Alarm #7
283 - I/O #1 Analog High Alarm #8

284 - I/O #2 Analog High Alarm #1
285 - I/O #2 Analog High Alarm #2
286 - I/O #2 Analog High Alarm #3
287 - I/O #2 Analog High Alarm #4
288 - I/O #2 Analog High Alarm #5
289 - I/O #2 Analog High Alarm #6
290 - I/O #2 Analog High Alarm #7
291 - I/O #2 Analog High Alarm #8

292 - I/O #1 Analog Low Alarm #1
293 - I/O #1 Analog Low Alarm #2
294 - I/O #1 Analog Low Alarm #3
295 - I/O #1 Analog Low Alarm #4
296 - I/O #1 Analog Low Alarm #5
297 - I/O #1 Analog Low Alarm #6
298 - I/O #1 Analog Low Alarm #7
299 - I/O #1 Analog Low Alarm #8

300 - I/O #2 Analog Low Alarm #1
301 - I/O #2 Analog Low Alarm #2
302 - I/O #2 Analog Low Alarm #3
303 - I/O #2 Analog Low Alarm #4
304 - I/O #2 Analog Low Alarm #5
305 - I/O #2 Analog Low Alarm #6
306 - I/O #2 Analog Low Alarm #7
307 - I/O #2 Analog Low Alarm #8

308 - I/O #1 Analog Alarm to Normal #1
309 - I/O #1 Analog Alarm to Normal #2
310 - I/O #1 Analog Alarm to Normal #3
311 - I/O #1 Analog Alarm to Normal #4
312 - I/O #1 Analog Alarm to Normal #5
313 - I/O #1 Analog Alarm to Normal #6
314 - I/O #1 Analog Alarm to Normal #7
315 - I/O #1 Analog Alarm to Normal #8

316 - I/O #2 Analog Alarm to Normal #1
317 - I/O #2 Analog Alarm to Normal #2
318 - I/O #2 Analog Alarm to Normal #3
319 - I/O #2 Analog Alarm to Normal #4
320 - I/O #2 Analog Alarm to Normal #5
321 - I/O #2 Analog Alarm to Normal #6
322 - I/O #2 Analog Alarm to Normal #7
323 - I/O #2 Analog Alarm to Normal #8

324 - I/O #1 Input Line High #1
325 - I/O #1 Input Line High #2
326 - I/O #1 Input Line High #3
327 - I/O #1 Input Line High #4
328 - I/O #1 Input Line High #5
329 - I/O #1 Input Line High #6
330 - I/O #1 Input Line High #7
331 - I/O #1 Input Line High #8

332 - I/O #2 Input Line High #1
333 - I/O #2 Input Line High #2
334 - I/O #2 Input Line High #3
335 - I/O #2 Input Line High #4
336 - I/O #2 Input Line High #5
337 - I/O #2 Input Line High #6
338 - I/O #2 Input Line High #7
339 - I/O #2 Input Line High #8

340 - I/O #1 Input Line Low #1
341 - I/O #1 Input Line Low #2
342 - I/O #1 Input Line Low #3
343 - I/O #1 Input Line Low #4
344 - I/O #1 Input Line Low #5
345 - I/O #1 Input Line Low #6
346 - I/O #1 Input Line Low #7
347 - I/O #1 Input Line Low #8

348 - I/O #2 Input Line Low #1
349 - I/O #2 Input Line Low #2
350 - I/O #2 Input Line Low #3
351 - I/O #2 Input Line Low #4
352 - I/O #2 Input Line Low #5
353 - I/O #2 Input Line Low #6
354 - I/O #2 Input Line Low #7
355 - I/O #2 Input Line Low #8

356 - Time-Out Timer Message #1
357 - Time-Out Timer Message #2
358 - Time-Out Timer Message #3
359 - Time-Out Timer Message #4
360 - Time-Out Timer Message #5
361 - Time-Out Timer Message #6
362 - Time-Out Timer Message #7
363 - Time-Out Timer Message #8

364 - Time-Out Clear Message #1
365 - Time-Out Clear Message #2
366 - Time-Out Clear Message #3
367 - Time-Out Clear Message #4
368 - Time-Out Clear Message #5
369 - Time-Out Clear Message #6
370 - Time-Out Clear Message #7
371 - Time-Out Clear Message #8

372 - Pre-Access Port 1
373 - Pre-Access Port 2
374 - Pre-Access Port 3
375 - Pre-Access Port 4
376 - Pre-Access Port 5
377 - Pre-Access Port 6
378 - Pre-Access Port 7
379 - Pre-Access Port 8

380 - Power on Reset Macro

381 - Temporary Macro

382 - User Timer 00 Expired
383 - User Timer 01 Expired
384 - User Timer 02 Expired
385 - User Timer 03 Expired
386 - User Timer 04 Expired
387 - User Timer 05 Expired
388 - User Timer 06 Expired
389 - User Timer 07 Expired
390 - User Timer 08 Expired
391 - User Timer 09 Expired
392 - User Timer 10 Expired
393 - User Timer 11 Expired
394 - User Timer 12 Expired
395 - User Timer 13 Expired
396 - User Timer 14 Expired
397 - User Timer 15 Expired

398 - Before Patch Off Hook
399 - After Patch On Hook
400 - Patch Busy Message
401 - Before Patch Number Readback
402 - After Patch Number Readback
403 - Dial Patch if Readback Interrupt
404 - Voice Message "Autopatch Off"

405 - DTMF Cover Tone

406 - User Log-On Message
407 - User Log-On Fail Message
408 - User Log-Off Message

409 - Beaconing Message Macro
410 - Beaconing Message Macro

411 - Speak "Autodial" like 401
412 - Two Stage Autopatch Call

413..499 - Reserved

500..999 - User Macros

Event Table

000 - COR Active Port 1
001 - COR Active Port 2
002 - COR Active Port 3
003 - COR Active Port 4
004 - COR Active Port 5
005 - COR Active Port 6
006 - COR Active Port 7
007 - COR Active Port 8
008 - COR Inactive Port 1
009 - COR Inactive Port 2
010 - COR Inactive Port 3
011 - COR Inactive Port 4
012 - COR Inactive Port 5
013 - COR Inactive Port 6
014 - COR Inactive Port 7
015 - COR Inactive Port 8
016 - PL Active Port 1
017 - PL Active Port 2
018 - PL Active Port 3
019 - PL Active Port 4
020 - PL Active Port 5
021 - PL Active Port 6
022 - PL Active Port 7
023 - PL Active Port 8
024 - PL Inactive Port 1
025 - PL Inactive Port 2
026 - PL Inactive Port 3
027 - PL Inactive Port 4
028 - PL Inactive Port 5
029 - PL Inactive Port 6
030 - PL Inactive Port 7
031 - PL Inactive Port 8
032 - Port Active Port 1
033 - Port Active Port 2
034 - Port Active Port 3
035 - Port Active Port 4
036 - Port Active Port 5
037 - Port Active Port 6
038 - Port Active Port 7
039 - Port Active Port 8
040 - Port Inactive Port 1
041 - Port Inactive Port 2
042 - Port Inactive Port 3
043 - Port Inactive Port 4
044 - Port Inactive Port 5
045 - Port Inactive Port 6
046 - Port Inactive Port 7
047 - Port Inactive Port 8
048 - Any Connected RX Active 1
049 - Any Connected RX Active 2
050 - Any Connected RX Active 3
051 - Any Connected RX Active 4
052 - Any Connected RX Active 5
053 - Any Connected RX Active 6
054 - Any Connected RX Active 7
055 - Any Connected RX Active 8
056 - All Connected RX Inactive 1
057 - All Connected RX Inactive 2
058 - All Connected RX Inactive 3
059 - All Connected RX Inactive 4
060 - All Connected RX Inactive 5
061 - All Connected RX Inactive 6
062 - All Connected RX Inactive 7
063 - All Connected RX Inactive 8
064 - Any DTMF Active Port 1
065 - Any DTMF Active Port 2
066 - Any DTMF Active Port 3
067 - Any DTMF Active Port 4
068 - Any DTMF Active Port 5
069 - Any DTMF Active Port 6
070 - Any DTMF Active Port 7
071 - Any DTMF Active Port 8
072 - Any DTMF Inactive Port 1
073 - Any DTMF Inactive Port 2
074 - Any DTMF Inactive Port 3
075 - Any DTMF Inactive Port 4
076 - Any DTMF Inactive Port 5
077 - Any DTMF Inactive Port 6
078 - Any DTMF Inactive Port 7
079 - Any DTMF Inactive Port 8
080 - Port 1 DTMF Active 0
081 - Port 1 DTMF Active 1
082 - Port 1 DTMF Active 2
083 - Port 1 DTMF Active 3
084 - Port 1 DTMF Active 4
085 - Port 1 DTMF Active 5
086 - Port 1 DTMF Active 6
087 - Port 1 DTMF Active 7
088 - Port 1 DTMF Active 8
089 - Port 1 DTMF Active 9
090 - Port 1 DTMF Active A
091 - Port 1 DTMF Active B
092 - Port 1 DTMF Active C
093 - Port 1 DTMF Active D
094 - Port 1 DTMF Active *
095 - Port 1 DTMF Active #
096 - Port 2 DTMF Active 0
097 - Port 2 DTMF Active 1
098 - Port 2 DTMF Active 2
099 - Port 2 DTMF Active 3
100 - Port 2 DTMF Active 4
101 - Port 2 DTMF Active 5
102 - Port 2 DTMF Active 6
103 - Port 2 DTMF Active 7
104 - Port 2 DTMF Active 8
105 - Port 2 DTMF Active 9
106 - Port 2 DTMF Active A
107 - Port 2 DTMF Active B
108 - Port 2 DTMF Active C
109 - Port 2 DTMF Active D
110 - Port 2 DTMF Active *
111 - Port 2 DTMF Active #
112 - Port 3 DTMF Active 0
113 - Port 3 DTMF Active 1
114 - Port 3 DTMF Active 2
115 - Port 3 DTMF Active 3
116 - Port 3 DTMF Active 4
117 - Port 3 DTMF Active 5
118 - Port 3 DTMF Active 6
119 - Port 3 DTMF Active 7
120 - Port 3 DTMF Active 8
121 - Port 3 DTMF Active 9
122 - Port 3 DTMF Active A
123 - Port 3 DTMF Active B
124 - Port 3 DTMF Active C
125 - Port 3 DTMF Active D
126 - Port 3 DTMF Active *
127 - Port 3 DTMF Active #
128 - Port 4 DTMF Active 0
129 - Port 4 DTMF Active 1
130 - Port 4 DTMF Active 2
131 - Port 4 DTMF Active 3
132 - Port 4 DTMF Active 4
133 - Port 4 DTMF Active 5
134 - Port 4 DTMF Active 6
135 - Port 4 DTMF Active 7
136 - Port 4 DTMF Active 8
137 - Port 4 DTMF Active 9
138 - Port 4 DTMF Active A
139 - Port 4 DTMF Active B
140 - Port 4 DTMF Active C
141 - Port 4 DTMF Active D
142 - Port 4 DTMF Active *
143 - Port 4 DTMF Active #
144 - Port 5 DTMF Active 0
145 - Port 5 DTMF Active 1
146 - Port 5 DTMF Active 2
147 - Port 5 DTMF Active 3
148 - Port 5 DTMF Active 4
149 - Port 5 DTMF Active 5
150 - Port 5 DTMF Active 6
151 - Port 5 DTMF Active 7
152 - Port 5 DTMF Active 8
153 - Port 5 DTMF Active 9
154 - Port 5 DTMF Active A
155 - Port 5 DTMF Active B
156 - Port 5 DTMF Active C
157 - Port 5 DTMF Active D
158 - Port 5 DTMF Active *
159 - Port 5 DTMF Active #
160 - Port 6 DTMF Active 0
161 - Port 6 DTMF Active 1
162 - Port 6 DTMF Active 2
163 - Port 6 DTMF Active 3
164 - Port 6 DTMF Active 4
165 - Port 6 DTMF Active 5
166 - Port 6 DTMF Active 6
167 - Port 6 DTMF Active 7
168 - Port 6 DTMF Active 8
169 - Port 6 DTMF Active 9
170 - Port 6 DTMF Active A
171 - Port 6 DTMF Active B
172 - Port 6 DTMF Active C
173 - Port 6 DTMF Active D
174 - Port 6 DTMF Active *
175 - Port 6 DTMF Active #
176 - Port 7 DTMF Active 0
177 - Port 7 DTMF Active 1
178 - Port 7 DTMF Active 2
179 - Port 7 DTMF Active 3
180 - Port 7 DTMF Active 4
181 - Port 7 DTMF Active 5
182 - Port 7 DTMF Active 6
183 - Port 7 DTMF Active 7
184 - Port 7 DTMF Active 8
185 - Port 7 DTMF Active 9
186 - Port 7 DTMF Active A
187 - Port 7 DTMF Active B
188 - Port 7 DTMF Active C
189 - Port 7 DTMF Active D
190 - Port 7 DTMF Active *
191 - Port 7 DTMF Active #
192 - Port 8 DTMF Active 0
193 - Port 8 DTMF Active 1
194 - Port 8 DTMF Active 2
195 - Port 8 DTMF Active 3
196 - Port 8 DTMF Active 4
197 - Port 8 DTMF Active 5
198 - Port 8 DTMF Active 6
199 - Port 8 DTMF Active 7
200 - Port 8 DTMF Active 8
201 - Port 8 DTMF Active 9
202 - Port 8 DTMF Active A
203 - Port 8 DTMF Active B
204 - Port 8 DTMF Active C
205 - Port 8 DTMF Active D
206 - Port 8 DTMF Active *
207 - Port 8 DTMF Active #
208 - Tried to hang up patch when was already hung up.
209 - Before turn HF mode On
210 - After turn HF mode Off
211 - HF Band 160m
212 - HF Band 80m
213 - HF Band 40m
214 - HF Band 30m
215 - HF Band 20m
216 - HF Band 17m
217 - HF Band 15m
218 - HF Band 12m
219 - HF Band 10m 28-29MHz
220 - HF Band 10m 29MHz+
221 - HF Band 6m
222 - HF Band 2m
223 - HF Band 1.25cm
224 - HF Band 70cm
225 - HF Band 33cm
226 - HF Band 23cm
227 - HF Band Other Band
228 - Hang Up Command 115 Blocked
229 - Tail Msg 1 TX 1
230 - Tail Msg 2 TX 1
231 - Tail Msg 3 TX 1
232 - Tail Msg 1 TX 2
233 - Tail Msg 2 TX 2
234 - Tail Msg 3 TX 2
235 - Tail Msg 1 TX 3
236 - Tail Msg 2 TX 3
237 - Tail Msg 3 TX 3
238 - Tail Msg 1 TX 4
239 - Tail Msg 2 TX 4
240 - Tail Msg 3 TX 4
241 - Tail Msg 1 TX 5
242 - Tail Msg 2 TX 5
243 - Tail Msg 3 TX 5
244 - Tail Msg 1 TX 6
245 - Tail Msg 2 TX 6
246 - Tail Msg 3 TX 6
247 - Tail Msg 1 TX 7
248 - Tail Msg 2 TX 7
249 - Tail Msg 3 TX 7
250 - Tail Msg 1 TX 8
251 - Tail Msg 2 TX 8
252 - Tail Msg 3 TX 8
253 - Reverse Patch Answered
254 - reverse Patch Password OK
255 - Command entered from Reverse Patch
256 - 30 Second to Patch Timeout
257 - 20 Second to Patch Timeout
258 - 10 Second to Patch Timeout
259 - Patch Dialing Cover Tone
260 - General Call-Out Answered
261 - Directed Reverse Patch Answered
262 - Directed R.P. “No Pager” Message
263 - Directed R.P. “No Answer” Message
264 - Directed R.P. “Cancel” Message
265 - Directed R.P. “Clear” Message
266 - Semi-Private Patch Cover Tone
267 - Repeat Dial Message
268 - Nothing to Redial
269 - Call Aborted Message
270 - Dial Timer Expired Port 1
271 - Dial Timer Expired Port 2
272 - Dial Timer Expired Port 3
273 - Dial Timer Expired Port 4
274 - Dial Timer Expired Port 5
275 - Dial Timer Expired Port 6
276 - Dial Timer Expired Port 7
277 - Dial Timer Expired Port 8
278 - PTT Active Port 1
279 - PTT Active Port 2
280 - PTT Active Port 3
281 - PTT Active Port 4
282 - PTT Active Port 5
283 - PTT Active Port 6
284 - PTT Active Port 7
285 - PTT Active Port 8
286 - PTT Inactive Port 1
287 - PTT Inactive Port 2
288 - PTT Inactive Port 3
289 - PTT Inactive Port 4
290 - PTT Inactive Port 5
291 - PTT Inactive Port 6
292 - PTT Inactive Port 7
293 - PTT Inactive Port 8

Voice Word Table

000 ZERO
001 ONE
002 TWO
003 THREE
004 FOUR
005 FIVE
006 SIX
007 SEVEN
008 EIGHT
009 NINE
010 TEN
011 ELEVEN
012 TWELVE
013 THIRTEEN
014 FOURTEEN
015 FIFTEEN
016 SIXTEEN
017 SEVENTEEN
018 EIGHTEEN
019 NINETEEN
020 TWENTY
021 THIRTY
022 FORTY
023 FIFTY
024 SIXTY
025 SEVENTY
026 EIGHTY
027 NINETY
028 HUNDRED
029 THOUSAND
030 MILLION
031 A
032 B
033 C
034 D
035 E
036 F
037 G
038 H
039 I
040 J
041 K
042 L
043 M
044 N
045 O
046 P
047 Q
048 R
049 S
050 T
051 U
052 V
053 W
054 X
055 Y
056 Z
057 ABORT
058 ABOUT
059 ABOVE
060 ACKNOWLEDGE
061 ACTION
062 ADJUST
063 ADVANCED
064 ADVISE
065 AERIAL
066 AFFIRMATIVE
067 AIR
068 AIRPORT
069 AKRON
070 ALERT
071 ALL
072 ALOFT
073 ALPHA
074 ALTERNATE
075 ALTITUDE
076 AMATEUR
077 AMPS
078 AND
079 ANSWER
080 APPROACH
081 APRIL
048 ARE
082 AREA
083 ARRIVAL
084 AS
085 ASSOCIATION
086 AT
087 AUGUST
088 AUTO
089 AUTOMATIC
090 AUTOPILOT
091 AUXILIARY
092 AVON
093 AVON MOUNTAIN
094 A.M
095 BAND
096 BANK
097 BASE
098 BATTERY
032 BE
099 BELOW
100 BETWEEN
101 BLOWING
102 BLUE KNOB
103 BOARD
104 BOOST
105 BOZO
106 BRAKE
107 BRAVO
108 BREAK
109 BROKEN
110 BUSY
111 BUTTON
112 BY
113 CABIN
114 CALIBRATE
115 CALL
116 CALLING
117 CALM
118 CANCEL
119 CAUTION
120 CEILING
121 CELSIUS
122 CENTER
123 CHANGE
124 CHARLIE
125 CHECK
126 CIRCUIT
127 CLEAR
128 CLIMB
129 CLOCK
130 CLOSED
131 CLUB
132 CODE
133 COLUMBUS
134 COME
135 COMPLETE
136 COMPUTER
137 CONDITION
138 CONGRATULATIONS
139 CONNECT
140 CONNECTICUT
141 CONTACT
142 CONTROL
143 CONVERGING
144 COSHOCTON
145 COUNT
146 COURSE
147 CRANE
148 CROSSWIND
149 CURRENT
150 CUYAHOGA FALLS
151 CYCLE
152 DALLAS
153 DANGER
154 DATE
155 DAY
156 DAYS
157 DAYTON
158 DECEMBER
159 DECREASE
160 DECREASING
161 DEGREES
162 DELTA
163 DEPARTURE
164 DEVICE
165 DIAL
166 DINNER
167 DIRECTION
168 DISPLAY
169 DIVIDED
170 DOOR
171 DOWN
172 DOWNWIND
173 DRIVE
174 DRIZZLE
175 DUST
176 EAST
177 ECHO
178 ELECTRICIAN
179 ELEVATION
180 EMERGENCY
181 ENGINE
182 ENTER
183 EQUAL
184 EQUALS
185 ERROR
186 ESTIMATED
187 EVACUATE
188 EVACUATION
189 EXIT
190 EXPECT
191 FAIL
192 FAILURE
193 FARAD
194 FAHRENHEIT
195 FARMINGTON
196 FAST
197 FEBRUARY
198 FEET
199 FILED
200 FINAL
201 FINDLAY
202 FIRE
203 FIRST
204 FLAPS
205 FLIGHT
206 FLOW
207 FOG
208 FOR
209 FOURTH
210 FOXTROT
211 FREEDOM
212 FREEZING
213 FREQUENCY
214 FRIDAY
215 FROM
216 FRONT
217 FULL
218 GALLONS
219 GATE
220 GAUGE
221 GEAR
222 GET
223 GLIDE
224 GO
225 GOLF
226 GOODBYE
227 GREEN
228 GREENWICH
229 GROUND
230 GURNEE
231 GUSTING_TO
232 HAIL
233 HALF
234 HAM
235 HAMFEST
236 HAMVENTION
237 HAVE
238 HAZARDOUS
239 HAZE
240 HEAVY
241 HELLO
242 HELP
243 HENRY
244 HERTZ
245 HIGH
246 HOLD
247 HOME
248 HOTEL
249 HOUR
250 HOURS
039 I
251 ICE
252 ICING
253 IDENTIFY
254 IGNITE
255 IGNITION
256 IMMEDIATELY
257 IN
258 INBOUND
259 INCH
260 INCREASE
261 INCREASING
262 INCREASING_TO
263 INDIA
264 INDICATED
265 INFLIGHT
266 INFORMATION
267 INNER
268 INSPECTOR
269 INTRUDER
270 IS
271 IT
272 JANUARY
273 JULIET
274 JULY
275 JUNE
276 KENTUCKY
277 KEY
278 KILO
279 KNOTS
280 LAND
281 LANDING
282 LATE
283 LAUNCH
284 LEAN
285 LEFT
286 LEG
287 LESS_THAN
288 LEVEL
289 LIGHT
290 LIMA
291 LINE
292 LINK
293 LIST
294 LITTON
295 LOCK
296 LONG
297 LOOK
298 LOW
299 LOWER
300 LUNCH
301 MACHINE
302 MAINTAIN
303 MANUAL
304 MARCH
305 MARKER
306 MAY
307 MAYDAY
308 ME
309 MEAN
310 MEASURE
311 MEETING
312 MEGA
313 MESSAGES
314 METER
315 MICRO
316 MIKE
317 MILES
318 MILL
319 MILLI
320 MINUS
321 MINUTES
322 MIST
323 MOBILE
324 MODERATE
325 MONDAY
326 MONTH
327 MORETHAN
328 MOTOR
329 MOUNT HAMILTON
330 MOUNT TAMALPAIS
331 MOVE
332 MOVING
333 MUCH
334 NEAR
335 NEGATIVE
336 NET
337 NEW
338 NEWINGTON
339 NEW HAVEN
340 NEXT
341 NIGHT
342 NO
343 NORTH
344 NORTHEAST
345 NORTHWEST
346 NOT
347 NOVEMBER
348 NUMBER
349 OAKS
350 OBSCURED
351 O'CLOCK
352 OCTOBER
353 OF
354 OFF
045 OH
355 OHIO
356 OHMS
357 OIL
358 ON
359 OPEN
360 OPERATION
361 OPERATOR
362 OSCAR
363 OTHER
364 OUT
365 OUTER
366 OVER
367 OVERCAST
368 PAPA
369 PARTIALLY
370 PASS
371 PASSED
372 PATCH
373 PATH
374 PELLETS
375 PER
376 PERCENT
377 PHONE
378 PICO
379 PLEASE
380 PLUS
381 POINT
382 POLICE
383 POSITION
384 POWER
385 PRACTICE
386 PRESS
387 PRESSURE
388 PRIVATE
389 PROBE
390 PROGRAMMING
391 PULL
392 PUSH
393 P.M.
394 QUEBEC
395 RADAR
396 RADIO
397 RAIN
398 RAISE
399 RANGE
400 RATE
401 RATTLESNAKE MOUNTAIN
402 READY
403 REAR
404 RECEIVE
405 RED
406 RELEASE
407 REMARK
408 REMOTE
409 REPAIR
410 REPEAT
411 REPEATER

412 RICH
413 RICHMOND
414 RIG
415 RIGHT
416 ROAD
417 ROGER
418 ROMEO
419 ROUTE
420 RUNWAY
421 SAFE
422 SAINT PETERSBURG
423 SAND
424 SANTA CLARA
425 SAN LEANDRO
426 SATURDAY
427 SCATTERED
033 SEA
428 SECOND
429 SECONDS
430 SECURITY
033 SEE
431 SELECT
432 SEPTEMBER
433 SEQUENCE
434 SERVICE
435 SET
436 SEVERE
437 SEXY
438 SHORT
439 SHOWERS
440 SHUT
441 SIDE
442 SIERRA
443 SIGHT
444 SLEET
445 SLOPE
446 SLOW
447 SMOKE
448 SNOW
449 SOUTH
450 SOUTHEAST
451 SOUTHWEST
452 SPEED
453 SPRAY
454 SQUAWK
455 STALL
456 START
457 STOP
458 STORM
459 SUNDAY
460 SWITCH
461 SYSTEM
462 TANGO
463 TANK
464 TARGET
465 TARPON SPRINGS
466 TAXI
050 TEA
050 TEE
467 TEEN
468 TELEPHONE
469 TEMPERATURE
470 TERMINAL
471 TEST
472 THANK YOU
473 THAT
474 THE_LONG_E
475 THE_SHORT_E
476 THE_NORMAL_E
477 THIN
478 THINLY
479 THIRD
480 THIS_IS
481 THIS
482 THUNDERSTORM
483 THURSDAY
484 TIME
485 TIMER
486 TIMES
487 TO
488 TODAY
489 TOMORROW
490 TONIGHT
491 TOOL
492 TORNADO
493 TORONTO
494 TOUCHDOWN
495 TOWER
496 TRAFFIC
497 TRANSMIT
498 TRIM
499 TUESDAY
500 TURBULENCE
501 TURN
502 UNDER
503 UNIFORM
504 UNIT
505 UNLIMITED
506 UNTIL
507 UP
508 USE (NOUN)
509 USE (VERB)
510 VALLEY
511 VALVE
512 VARIABLE
513 VERIFY
514 VICTOR
515 VISIBILITY
516 VOLTS
517 WAIT
518 WAKE
519 WAKEUP
520 WARNING
521 WATCH
522 WATTS
523 WAY
524 WEATHER
525 WEDNESDAY
526 WELCOME
527 WEST
528 WEST HARTFORD
529 WHISKEY
530 WILL
531 WIND
532 WISKEY
533 WITH
534 WRONG
535 X_RAY
536 YANKEE
537 YELLOW
538 YESTERDAY
539 YOU
540 YOUR
541 ZED
542 ZONE
543 ZULU

Prefixes and Suffixes

544 FIF
545 THIR-
546 -ED
547 -ER
548 -ING
549 -S
550 -TEEN
551 -TH
552 -TY

Juliet's Words

553 OH
554 ONE (F)
555 TWO (F)
556 THREE (F)
557 FOUR (F)
558 FIVE (F)
559 SIX (F)
560 SEVEN (F)
561 EIGHT (F)
562 NINE (F)
563 TEN (F)
564 ELEVEN (F)
565 TWELVE (F)
566 THIRTEEN (F)
567 FOURTEEN (F)
568 FIFTEEN (F)
569 SIXTEEN (F)
570 SEVENTEEN (F)
571 EIGHTEEN (F)
572 NINETEEN (F)
573 TWENTY (F)
574 THIRTY (F)
575 FORTY (F)
576 FIFTY (F)
577 GOOD (F)
578 MORNING (F)
579 AFTERNOON (F)
580 EVENING (F)
581 THE (F)
582 TIME (F)
583 IS (F)
584 AM (F)
585 PM (F)
586 O'CLOCK (F)

Pause

587 PAUSE

Sound Effects

588 LASER
589 WHISTLE
590 PHASER
591 TRAIN
592 EXP
593 CROWD
594 TIC
595 TOC
596 HIGH-LOW TONE
597 LOW-HIGH TONE
598 HIGH TONE

Junior's Words

599 ALARM
600 AMATEUR
601 ANALOG
602 ARIZONA
603 AUTOPATCH
604 BACHELOR
605 BAD
606 BASE
607 BATTERY
608 BAY
609 BILLINGS
610 BOZEMAN
611 CANOE
612 CAPROCK
613 CENTRAL
614 CHARGING
615 CLOUDS
616 CLUB
617 COMMUNICATIONS
618 CONTROLLER
619 DIGITAL
620 EMPIRE
621 EVENT
622 FIELD
623 FLASH
624 FLOOD
625 FRIENDLY
626 GOLDEN
627 GREYCLIFF
628 HAM
629 HAMFEST
630 HARRISON
631 HOLLEY
632 HOME
633 INFORMATION
634 INLAND
635 INPUT
636 INSIDE
637 KOOTENAI
638 LINK
639 LITTLEROCK
640 MEDIUM
641 MEETING
642 MICA
643 MONITOR
644 MOUNTAIN
645 NET
646 OBED
647 OREGON
648 OUTSIDE
649 PEAK
650 POUND
651 PUMP
652 PYRAMID
653 RACES
654 RADIO
655 RATTLESNAKE
656 REMOTE
657 REPEATER
658 RIDGE
659 SANDRA
660 SCAN
661 SIDNEY
662 SKYWARN
663 SOCIETY
664 SPOKANE
665 STAR
666 STATE
667 SUNDANCE
668 SYSTEM
669 TACOMA
670 THIS
671 TIGER
672 TODAY
673 TOMORROW
674 TONIGHT
675 VALUE
676 VOLTAGE
677 WASHINGTON
678 WATCH
679 WATER
680 WELCOME
681 WITH
682 YAKIMA
683 YELLOWHEAD
684 YELLOWKNIFE
685 ZED

Internal Variable Words (don't use)

800 UNUSED
801 START POLITE
802 END POLITE
803 END POLITE DO CMD
804 DO DELAYED DIAL
805 START DVR TIMER

Variable Words

810 MALE TIME
811 HOUR OF DAY (12 hr)
812 HOUR OF DAY (24 hr)
813 MINUTE OF HOUR
814 AM / PM
815 DATE
816 MONTH OF YEAR
817 DAY OF MONTH
818 YEAR
819 DAY OF WEEK
830 TIME (F)
831 HOUR OF DAY (12 hr) (F)
832 HOUR OF DAY (24 hr) (F)
833 MINUTE OF DAY (F)
834 AM / PM (F)
835 Morn/Aft/Even (F)
840 I/O 1 ANALOG 1
841 I/O 1 ANALOG 2
842 I/O 1 ANALOG 3
843 I/O 1 ANALOG 4
844 I/O 1 ANALOG 5
845 I/O 1 ANALOG 6
846 I/O 1 ANALOG 7
847 I/O 1 ANALOG 8
848 I/O 2 ANALOG 1
849 I/O 2 ANALOG 2
850 I/O 2 ANALOG 3
851 I/O 2 ANALOG 4
852 I/O 2 ANALOG 5
853 I/O 2 ANALOG 6
854 I/O 2 ANALOG 7
855 I/O 2 ANALOG 8
856 I/O 1 High 1
857 I/O 1 High 2
858 I/O 1 High 3
859 I/O 1 High 4
860 I/O 1 High 5
861 I/O 1 High 6
862 I/O 1 High 7
863 I/O 1 High 8
864 I/O 2 High 1
865 I/O 2 High 2
866 I/O 2 High 3
867 I/O 2 High 4
868 I/O 2 High 5
869 I/O 2 High 6
870 I/O 2 High 7
871 I/O 2 High 8
872 I/O 1 High Time 1
873 I/O 1 High Time 2
874 I/O 1 High Time 3
875 I/O 1 High Time 4
876 I/O 1 High Time 5
877 I/O 1 High Time 6
878 I/O 1 High Time 7
879 I/O 1 High Time 8
880 I/O 2 High Time 1
881 I/O 2 High Time 2
882 I/O 2 High Time 3
883 I/O 2 High Time 4
884 I/O 2 High Time 5
885 I/O 2 High Time 6
886 I/O 2 High Time 7
887 I/O 2 High Time 8
888 I/O 1 Low 1
889 I/O 1 Low 2
890 I/O 1 Low 3
891 I/O 1 Low 4
892 I/O 1 Low 5
893 I/O 1 Low 6
894 I/O 1 Low 7
895 I/O 1 Low 8
896 I/O 2 Low 1
897 I/O 2 Low 2
898 I/O 2 Low 3
899 I/O 2 Low 4
900 I/O 2 Low 5
901 I/O 2 Low 6
902 I/O 2 Low 7
903 I/O 2 Low 8
904 I/O 1 Low Time 1
905 I/O 1 Low Time 2
906 I/O 1 Low Time 3
907 I/O 1 Low Time 4
908 I/O 1 Low Time 5
909 I/O 1 Low Time 6
910 I/O 1 Low Time 7
911 I/O 1 Low Time 8
912 I/O 2 Low Time 1
913 I/O 2 Low Time 2
914 I/O 2 Low Time 3
915 I/O 2 Low Time 4
916 I/O 2 Low Time 5
917 I/O 2 Low Time 6
918 I/O 2 Low Time 7
919 I/O 2 Low Time 8

920XXX - read analog 1-16 as S-Meter

921XXX - read analog 1-16 as a Direction N, NE E, SE, S etc.

922XXX - Execute Command xxx (up to 900 or so, may not go all the way to 999) Will not happen until this word is - actually spoken.

923XXX - Speak 24 hour time in male voice adding xxx hours. Can use to speak the time for any time zone.

924XXX - Same as above in female voice

925 - Speak Callsign of User XXX
926 - Speak Callsign on Port XXX

927 - Speak Callsign of User XXX Being Paged by Directed Reverse Patch

CW Code Table

00	0
01	1
02	2
03	3
04	4
05	5
06	6
07	7
08	8
09	9
10	A
11	B
12	C
13	D
14	E
15	F
16	G
17	H
18	I
19	J
20	K
21	L
22	M
23	N
24	O
25	P
26	Q
27	R
28	S
29	T
30	U
31	V
32	W
33	X
34	Y
35	Z
36	/
37	.
38	?
39	AR
40	SPACE
41	PAUSE

DTMF Code Table

00	Digit 0
01	Digit 1
02	Digit 2
03	Digit 3
04	Digit 4
05	Digit 5
06	Digit 6
07	Digit 7
08	Digit 8
09	Digit 9
10	Digit *
11	Digit #
12	Digit A
13	Digit B
14	Digit C
15	Digit D
16	<Pause>

Radio Port Pin-Out

1,6,8,9 Ground
2 PL Input (Active H/L)
3 PTT (Active Low 150mA)
4 Audio Out (600 Ohm)
5 Audio In (10K Ohm)
7 COR Input (Active H/L)
(COR 10K 4mA^ to gnd)

Radio Port Dip SW

1	Off (Speaker Audio)
Up	On (Discriminater)
2	Off COR High
Up	On COR Low
3	Off PL High
Up	ON PL Low
4	Spare
5	Spare

J1 TX & J3 RX

1,2	Audio Path Complete
3	Ground
4	+10 Volt

J5 RS232*

*=When Jumpers are Removed, Requires Dallas DS1275 -Do Not Jump 1,2 and 3,4 w/DS1275.
-12 to +12 Volts

J5 TTL**

**=When Jumpers Are Present = TTL Signals from 68HC11 - This Mode is used for Doug Hall and RLC-ICM Control.
0-5 Volts

Audio Adjustment

RECEIVER:
Adjust the "RX" pot on each port, checking the signal on P4 so that all receiver inputs are set to the same level of 1 volt Peak-to-Peak. (P4 is a 10 pin connector near the power connector above the mother-board serial port)
ENTER: 005 111
078 100

TRANSMITTER:
After RX adjustment, adjust the "TX" pots on all connected transmitters to obtain the desired deviation. (transmitters should not need any additional adjustments after at least 1 receiver is set up)

VOICE LEVEL:
This adjustment R12 should be set for 2 Khz deviation. (R12 is located on the mother- board between port cards 2 and 3)

TONE GENERATOR:
Adjust the "TN" pot on each port card for 1.5 Khz deviation.

RS232 Communication Parameters

9600 N81

Baud (Default)	9600
Start Bits	1
Stop Bits	1
Parity	None
Word Length	8
Duplex	Full

RS232 Signals and Interfacing Modem

Computer to Controller:
Use a straight-through cable (not a null modem cable or adapter) with at least * pins conneted

Controller to Modem:
Use a null modem cable or a null modem adapter

DB25 to DB9			
8		1	Carrier Detect
3	*	2	Receive Data
2	*	3	Transmit Data
20		4	Data Term. Ready
7	*	5	Ground
6		6	Data Set Ready
4		7	Request to Send
5		8	Clear to Send
22		9	Ring Indicator

Controller- Computer - or Modem					
DB9	-DB9	DB25	-DB9	DB25	
pin 2	2	3	3	2	
pin 3	3	2	2	3	
pin 5	5	7	5	7	

Modem Defaults

AT&F = Factory Defaults
ATS3 = Auto Answer 3rd Ring
or (ATS0 No Answer)
ATS0 = Auto Answer Off
AT&K0 = Disable Flow Control
ATE0 = Disable Local Echo
ATQ1 = Stop Modem Result Codes
AT&W = Store Modem Settings

If Unable to Disable theModems Flow Control, ShortPins 4 and 5 together and Pins 6, 8 and 20 togetherThis should fool the Flow Control

Serial Downloads

If more than a dozen commands or so are downloaded, the RLC-3 may get way behind, or even get lost. This does not affect the commands that are being sent to the RLC-3 in any way - just the responses. If you need to know what the responses are change the ASCii transfer settings on your communications software to insert a 1.5 second delay after each line (longer for slow baud rates, shorter for fast baud rates) this will give the RLC-3 time to send the responses back without overflowing the queue.

Setting 050 090 before the download will turn off voice responses.

To turn Lower Case and Linefeeds ON enter 06011 before the download.

Use a terminal program that allows the use of prompt strings. The program will wait for the prompt "DTMF>" before the next line of text is sent to the controller, thus no need to insert a pause after each line that is sent.

DTMF Voice Falsing

Check to see if R12 on the Radio Port Card is 470K Ohms.
(NOT the MOTHER BOARD)
The RLC3 early releases were shipped with R12 as 300K. This change increases the decode time from 40ms to 50ms. If more than 50ms is needed, values over 700K should be avoided as they may cause the RLC3 not to decode at all.
Any additional audio falsing can be less annoying by setting DTMF Mute Timer relatively short 1..2 sec.
(or less with audio delay module)

IO Card DB-25

DB-Pin	Line-#	I/O Type
1	N/A	Ground
14	8	Analog
2	7	Analog
15	6	Analog
3	5	Analog
16	4	Analog
4	3	Analog
17	2	Analog
5	1	Analog
18	8	Input
6	7	Input
19	6	Input
7	5	Input
20	4	Input
8	3	Input
21	2	Input
9	1	Input
22	8	Output
10	7	Output
23	6	Output
11	5	Output
24	4	Output
12	3	Output
25	2	Output
13	1	Output

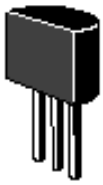
I/O Card

S1 Up On for LM335 Temp Sen
S2 Up On for V-Divider 25V

LM335 Temperature Sensor

The sensor converts temperature into voltage which is read by the controllers ADC (Analog-Digital Converter). Powering the sensor is accomplished by turning the appropriate dip switch 'ON' on the I/O board. The power switch must be on and the voltage divider switch off for the temperature sensor to work.

To avoid RFI causing the sensor to give erroneous readings, some consideration should be given to using shielded cable, by-pass capacitors on both ends of the cable to be utilized, and ferrite beads.



1=N/C 2=Analog 3=Ground

Pins on the LM-335

System Re-Initialization

Method #1
With the power off.

Press and hold the INIT button on the Mother-board. Turn on the power. Wait for about 3 seconds (or longer. Release the INIT Button.

Method #2
With the power on.

Press and hold both the INI and the RESET buttons. Release the RESET button Wait at least 3 seconds. Release the INITAL button.

Link Communications Inc.

1035 Cerise Road
Billings, MT 59101-1518

(406) 245-5002 Voice
ext 101 Angela
ext 102 Steve S.
ext 103 Allan
ext 105 Mark
ext 106 Jeanie
ext 112 Steve H.
Ext 113 Rodney
ext 114 Brock
ext 115 Sue
(800) 610-4085 Orders
(406) 245-4889 Fax

WEB SITE:
www.link-comm.com
email:
info@link-comm.com
steve@link-comm.com
allan@link-comm.com
List Servers:
linklist@link-comm.com
RLC@yahoogroups.com