F6CTE (Patrick Lindecker) the 19 of June 2008 APRS EASY WITH MULTIPSK (4.9)

Introduction

In this document it will be found 4 forms (snapshots of Multipsk screen with indications to the « how to operate »), and which show the basic functions of APRS in Packet 1200 bauds mode (QRG : 144.800 MHz in FM but 144.390 MHz in the North American continent). Auxiliary options have been neglected. Their description will be found in the help. In Multipsk, APRS can be done in Packet 110, 300 and 1200 bauds, Pax, Pax2 and ARQ FAE in ALE or ALE400. Notes about the help in Multipsk:

* for the contextual help, click on the right button of the mouse, with the focus over the APRS button (or a mode button, « Packet » for example),

* use also the button hints (wait a fraction of second over a button).

List of the forms

1) APRS reception

2) Map load from the APRS window (+ management of the maps)

3) APRS transmission

4) APRS repeaters management for APRS transmission + APRS digipeater function

APRS definition

APRS is short for « Automatic Position Reporting System », which was designed by Bob Bruninga, WB4APR, and introduced by him at the 1992 TAPR/ARRL Digital Communications Conference.

Fundamentally, APRS is a Packet communication protocol for disseminating live data to everyone on a network in real time. Its most visual feature is the combination of Packet radio with the Global Positioning System (GPS) satellite network, enabling radio amateurs to automatically display the positions of radio stations and other objects on maps on a PC.

Other features not directly related to position reporting are supported, such as weather station reporting, direction finding and messaging.

Example of use of repeaters (also called « digipeaters »), see the last form For general mobiles:

TX : APZMU3 de F9YYY via WIDE2-2

.....repetition with F6CTE and F9YYZ substitution.....

RX : APZMU3 de F9YYY via F6CTE* WIDE2-1 (first hop)

RX : APZMU3 de F9YYY via F6CTE* F9YYZ* (second hop)

<u>Note:</u> "*" means end of the repetition relatively to the alias repeated, i.e when the SSID of this alias is worth 0, after decrementation (the bit H passing, hence, from 0 to 1).

Other TX examples:

- TX (<u>from local mobiles</u>): APZMU3 de F9YYY via **WIDE1-1 WIDE2-1** <u>Note:</u> "WIDE1-1" is used for a "small distance repeater"

- TX (from home stations): APZMU3 de F9YYY via WIDE2-2

- or TX (from home stations): APZMU3 de F9YYY via WIDE3-3 (in distant rural areas)

	A level around 50 % is well (but not critical)
About Personal CPU Sampling freq PC (>=) MHz Mixer Level APRS RECEPTION RSTR BS Locator ?QTH Path Notes 0 PACKET 599 599 PACKET S99 599 599 PACKET S99 599	Openation BPSK31 63 125 250 FEC31 PSK10 MT63 OvePacket 1200 bauds to select 0 PSK20F CW CCW(OOK-FSK) OvePacket PACKET+APRS Amtor FEC-Navtex ASCII Desk PACKET+APRS Amtor FEC-Navtex ASCII Desk PACKET+APRS Amtor FEC-Navtex ASCII DominoF Cluster L Click the button "APRS" to open the APRS window DominoEX Meepader: APRS PAX/PAX2 DTMF 141A ALE40D OLIVIA Contestia onder OFF Fees FM HELL PSK H FELD HELL HELL 80 RTTYM
Space / Mark Frequencies Destination Sender Connect Unproto 1200 1200 Hz DRLU F6CTE Disconnect Monitor 300 1 200 500 1000 <th></th>	
indifferent in APRS (but not in connected Packet) "Reduced" for 480x360 maps, COlumn CQ 500 "8 otherwise 800x600 maps (the Set 2 Sets list File Macros Cleformat adaptation is automatic) after "via": APRS repeaters	12/06/08 14:09:26 UTC TX2YR4 de F1LLS-9 via F4BWT -12 F6KOB -4 F6KRK -3 WIDE2 To change of map GPS COM Stations in chronological order GoogleEarth 12/06/08 14:09:26 UTC Source: F1LLS TX2YR4 Earth Display all UTC time Long=001^28.98'E Precis=0.005' Direc=42 S1 515 feet or 157 m Comment: QRV 145500 ou Rpt UF>/1"SY) QRV 145500 ou Rpt Local *73*
APRS frames generic repeater	X=182 Y=23 Lat=66^36.00' N Long=000^38.00' W S. X=2979 Jm E. Y=4215 km de F1LLS Time/date The analysed APRS frame
generic destination first APRS repeater repeated Senderfirst APRS repeater repeated TX2YX7 de F4EJQ-9 via F4BWT-12* F6K0B-4* F6KRK-3* WIDE2* Ctl R UI Pid=F wAG rL>/]"6%}TM-D700 _ QRV 145,7125MHz APRSmessage	Lat. 48^29.24'N Long. 001^28.98'E Prec. 0.005' "Icone" Car Direction (deg.) 42 N received information
TX2YW6 de F4EJQ-9 via F4BWT-12* F6K0B-4* F6KRK-3* WIDE2* Ctl R UI Pid=F `w@i rK>/]"6#}TM-D700 _ QRV 145,7125MHz TX2YR1 de F4EJQ-9 via F4BWT-12* F6K0B-4* F6KRK-3* WIDE2* Ctl R UI Pid=F `w?8o"0>/]"5u}TM-D700 _ QRV 145,7125MHz	Speed (km/h) 85.2 W E Gust (km/h) S Black dots: positions of
APFD51 de F6KIF-14 via F6KIF* F1ZRG-4* F6KGT-4* F6KRK-3* WIDE6-3 Ctl R U =4853.02NN00337.24E#Digi_Ned.DOS. F6KIF-14 VAUCHAMPS (51)	the APRS stations
TX2YP6 de F1LLS-9 via F4BWT-12* F6K0B-4* F6KRK-3* WIDE2* Ctl R UI Pid=F1 'w8en+=>/]"5Z}QRV 145500 ou Rpt Local *73* TX2YR4 de F1LLS-9 via F4BWT-12* F6K0B-4* F6KRK-3* WIDE2* Ctl R UI Pid=F	Snowfall during last 24 hours (cm) Red dot: your own position
'w8~ \F>/]"5Y}QRV 145500 ou Rpt Local *73*	QRV 145500 ou Rpt Local *73* Other information Distance=54 km / Az.=249deg Altitude= 515 feet or 157 m 12/06/08 14:10:31 UTC SpotC. Off Commander

RX/TX screen Patrick LINDECKER (F6CTE) MAP LOAD FROM THE APRS WINDOW (+ MANAGEMENT OF THE MAPS)						
Help TCP/IP Mdem Oscillo Spectrum Transceive						
About Personal CPU Sampling freq. PC (>=) MHz Mixer Level Over Panoramic: QPSK31 63 125 250 CHIP PSK63F DIGISSTV						
Licence Cl _i A small set of maps is proposed. However you can choose up to 10 maps (+ the world map).						
		nd quick way to do maps matched to the user's needs is to use				
	EB application http://www.sailwx.info/maps/shipplot					
TX: PACKE	clicking on the button ''Maps'', you will be able to loa —					
Space / Mark Frequent	🔀 Packet APRS frames decoding/coding					
1200 Hz / 2200 H	Correct APRS frame Maps to define by the user	12/06/08 15:01:37 UTC Top left corner Bottom right corner Print				
200 500	World File Comment (30 characters)					
Contractor and the second second	EUROPE Upt Imp Exp Europe (VI-VIEW map)	69-02 20N 026-16 80W 31-06 00N 041-14 20E				
and a second	SMALL ENROPE Hot Imp Evo Small Europe (HI-VIEW map)	58-45.00N 010-15.00W 36-00.00N 030-18.00E				
	Click on the right button of the mouse to	58-45.00N 010-15.00W 36-00.00N 030-18.00E load the map (.BMP, .JPG or00N 060-00.00W				
CQ3cmm C(.GIF file). The co-ordinates file (.TXT (Multi	ipsk), INF (UIVIEW) or CLB				
Set 2 Sets list Fi	USACAN (SailWX)) will be automatically loaded if it	exists.				
	FRANCE Upt Imp Exp France (IGN) (non equidist.)	51-10.00N 005-35.00W 42-00.50N 008-47.00E				
		TE 12 14 100 001-26.97E 48-07.80N 003-32.90E				
	To define Upt Imp Exp No comment	□□□□Save the map and the co-ordinates				
APND0X de F5KCS-2	To define Upt Imp Exp No comment	00-00.00N 000-00.00W 00-00.00N 000-00.00W				
APRS de F6KIF-14 v >Digi Ned 0.3.3 Fr 1.	To define Upt Imp Exp No comment					
-	To define Upt Imp Exp No comment	000-00.00N 000-00.00V 000-00.00N 000-00.00W				
APNDOV de F6KKR v		ing Lock Close with storage Close without storage				
APNDOV de F6KKR v	Gust (km/h)	Ouvrir				
AINDOV GETOKKIT	Temperature (C) Pressure(mBar)	Regarder dans : 🗁 MAPS 💿 🖛 🗈 💣 🖽				
TY2TUL de F5NZD-9	Rainfall during last hour (mm)					
`y;∓=>/]"4E}	Rainfall during last 24 hours (mm)					
APU24L de F8CVE v	Rainfall since midnight (mm) Snowfall during last 24 hours (cm)	utique Des documents GB,GIF				
>121447zDX: F8KGD		récents				
APND0X de F8KCS-3	Humidity (%) Luminosity (Watt/m2) 73 de F5NZD	MALL_EUROPE.GIF				
=4950.97NN00317.2	Other information	USA.GIF				
TY2TYL de F5NZD-9	Distance=129 km / Az.=49deg	Bureau SACAN.GIF				
`y:So#U>/]"4^}	Altitude= 259 feet or 79 m					
TY2UPL de F5NZD-9		Est 💋				
`y:_op6>/]"4f}73 de		Mes documents				
Snapshot Print	onts Clear Ø Double Height 🜩 33 12/06	6/08 15:				

🐹 🚽 RX/TX screen		_ 뭔 ×			
Help TCP/IP Mdem Oscillo Spectrum Transceiver APRS TRANSMISSION					
About Personal	LPUIS ampling regi PC(2-) MHZ Mixel Level Over Panoramic: Douranded out so Dourange	63F DIGISSTV			
Licence Clocks	16 bits Identifiers • 4500 1660 66 Input Output 52 % PSKCWBTTY PSKAWIO 31 50 PSK220F CWC				
1 Call ? Name N	Fred Mb2 View Model Ir BST Mit BST B BST ocator 2 Click here to open the transmission window	or1 DominoF			
	Correct APRS frame 12/06/08 15:52:13 UTC	K8 DominoEX			
Modes RS ID Vid	Building of the APRS frame you wish to transmit Ring Help GPS Off Transmission Beacon Off Exit Print	IA Contestia			
TX: PACKET	The frame correspond to a fixed station (QRA) or to a GPS station.	80 RTTYM			
-Space / Mark Freque 1200 Hz / 2200	Data with their button non-clicked will not be sent Your call must be written in the field "Sender" in the RX/TX window. GPS COM port closed No GPS RX	5 VOICE			
200 5	The APRS destination is "APZMU3" (experimental APRS adress)				
Enter your own	APRS repeaters [RELAT, WIDE]: Click on Uptions [RX/IX window].	Waterfall <u>High</u>			
co-ordinates 🥄	Your latitude/longitude Frame type d-m.c (N/S) d-m.c (W/E) • "Position" (+ altitude) • "Weather" (+ position) • "Weather" (+ position) • "Weather" (+ position)	Rewind			
(degrees-	49-41 99V 002-09 25V O "GPS position" O "GPS position + altitude"	Band KHz (P450=+) 2.5 C 3.3 C 4.3			
minutes.	Places of information for "Position" frame ("Comment" also for GPS)				
decimals) ———	Altitude 000200 C feet (0 to 999999) C m (0 to 304799)	GC Grey			
/121549z4841.98N	Angleterre	*			
	Comment APRS transmission for test your message Pue-de-Culais 39 Bely ON4YI	~			
You can send	Pieces of information for "Weather" frame (not for GPS) Wind direction 000 degrees (0 to 359)	▲ ▼			
your position	Wind direction 000 degrees (0 to 359) Allemagne				
either once by	Wind speed 000 💿 knots (0 to 999) 💿 km/h (0 to 999)				
clicking here or with the	Gust speed 000 • mph (0 to 999) • km/h (0 to 999)				
beacon					
	41 49 Jar Course 25				
	[Rainfall(24h] 000 1/100 inch (0 to 999) mm (0 to 253)				
	Snowfall (24h) 000 (inch (0 to 999) C cm (0 to 999)				
You can send	Humidity 200 % (1 to 100)				
your local	Pressure 00000 1/10 mbar (hPa) (0 to 99999)				
meteorological	Data shecking Data storage				
data (at least	Close with storage Close without storage 40 82 Provide 48 94 94				
humidity,	Albest of Albest				
temperature					
and pressure,					
which are	Espagne Andorre 66 Mer Méditerranée				
common).	A-3 40.03.70N 2.10.40E 100.0KIII 1020 17.37				
WIDE de F1BIV-1 via F6KRK-3* WIDE3-2 Ctl C UI Pid=F0 Len=63> =4849.61N\00219.73Eo/PHG2130 - Qth:Paris 14e - VHF&IP {UIV32N}					
SnapshotPrint	Fonts Clear Ø Double Height = 33 12/06/08 15:52:13 UTC SpotC. Off Commander				

🔀 RX/TX screen APRS REPEATERS MANAGEMENT FOR APRS TRANSMISSION							
Help TCP/IP Mdem (C31 PSK10 MT63				
About Personal C	APRS DIGIPEATER FUN		HIP PSK63F DIGISSTV				
Licence Clocks 1			OF CW CCW(OOK-FSK) FEC-Navtex ASCII				
1 Call ? Name NFreq Mbz View Mode Ur RSTMy RSTR BS LPUSh "APRS" to be in APRS digipeater Note: you can't do connected Packet							
Modes RS ID Video ID QRGs Unproto for APRS (or APRS Signal: Repeater: APRS Packet PAX/PAX2 DIME 141A ALE400 OLIVIA Contestia							
TX: PACKET MODE Packet) repeater Disconnected - responder OFF - beacon OFF Pres. FM HELL PSK H FELD HELL HELL 80 RTTYM							
Space / Mark Frequencies Destination	Sender Connect Unproto 1200 b	Click on "Options" to open this					
	CTE Disconnect Monitor 300 110 Optic	ons Resp. /bead manin Protessional modes	SSTV				
200 500 Indifferent in APRS (or 2007)	Packet parameters		Spectrum Waterfall High				
Packet) digipeater	OK Cancel	Default parametersHelp	Confirm here Rewind				
Construction of the second se second second sec	Possible use of one to eight repeaters	V SLO DOICD IF ODE FEDEAFELIS USED AF JEASE	Hz (P450=+)				
Your callsign		epeater = call sign on 6 characters + SSID (0 to 15) if necessary	repeaters				
CQkmm CQ 500 "8"	WIDE2-2 Here are the repeaters (ca	allsigns or generic repeaters as WIDE2-2)					
Here are the APRS repeater	Options for the Packet APRS Repeate	er (limited to 10 minutes in non licencied version)					
options, i.e the type of frames	Repetition on type "n-N" modern aliase						
that you are repeating (this	WIDE n-N Enabled TRACE n-N Ena	abled 7 14 28 56	×				
choice is done according to your	n·N Enabled n·N Ena						
TX power and your location)	7 1 to 7: maximum number of authorized repetitions						
=4832.55ND00133.38E#PHG2110/Serveur							
WIDE de F1BIV-1 via F5RAC-4* TRACE3-2	7 2 to 7: max. number of repetitions before traping	("N") TRACE Enabled ECHO Enabled GATE Enabled					
=4849.61N\00219.73Eo/PHG2130 - Qth:Pa	Connection / Disconnection	Various pieces of information					
RELAY de F5STX-9 via F6KRK-3* WIDE4-3	Maximum acknowlegement time ("FRACK")	CQ Destination in Unproto (CQ)					
\$PNTS,1,0,12,06,2008,162111,4847.4888,	5 Between 2 and 60 seconds	Special shift in 1200 bauds: 800 Hz					
APU25N de F8KHN via F8KHN-4* F8KGK-4 ³	Maximum number of retries ("RETRY")						
>141405zUI-View32 V2.03	10 Between 1 and 200 times	Frames display options					
APFD80 de F1CHJ-5 via F5KCS-2* F6KGT-4	Frames transmission options	Frame control by checksum active					
!4950.93N/00224.21E# (APRS DIGI UIDIGI	Maxi. number of frames by package (MAXFRAME)	If frame control by checksum is disabled:					
TX5RP1 de F8DHV-9 via F5RAC-4* WIDE3- `x/=I^ b/>"4=}->> En velo ! 73	3 From 1 to 7 frames/package	Flags displayed by a "\$" or a "£"					
	Maximum number of "datas" per frame ("PACLEN")	If frame control by checksum is active:					
WIDE de F1BIV-1 via F5RAC-4* TRACE3-2 >121621zDX: F5ST0 48.40.13N 2.21.69E 1		Only the information on RX and TX frames					
	128 From 1 to 255 bytes	Options for non-limited Multispk version					
APU25N de F6KRK via F6KRK-3* WIDE3-2 @121636z4846.72N/00201.34E_000/000g(Waiting time on clear channel before TX (DWAIT)	Date/time displayed for each frame					
T8UXU6 de F11GJ-9 via F6K0B-4* F6KRK-3	20 20 to 250 hundredth of sec	Filter of frames on call (destination or source)					
'wG?""qk/]"4g}	XCVB RX->TX turnaround time ("TXDELAY")	MYCALL Call sign on 6 characters maximum					
	40 10 to 120 hundredth of sec	Filter of frames on SSID (destination or source)					
Snapshot Print Fonts Clear Ø Double	Inactivity time before link text ("CHECK")	SSID between 0 and 15					