

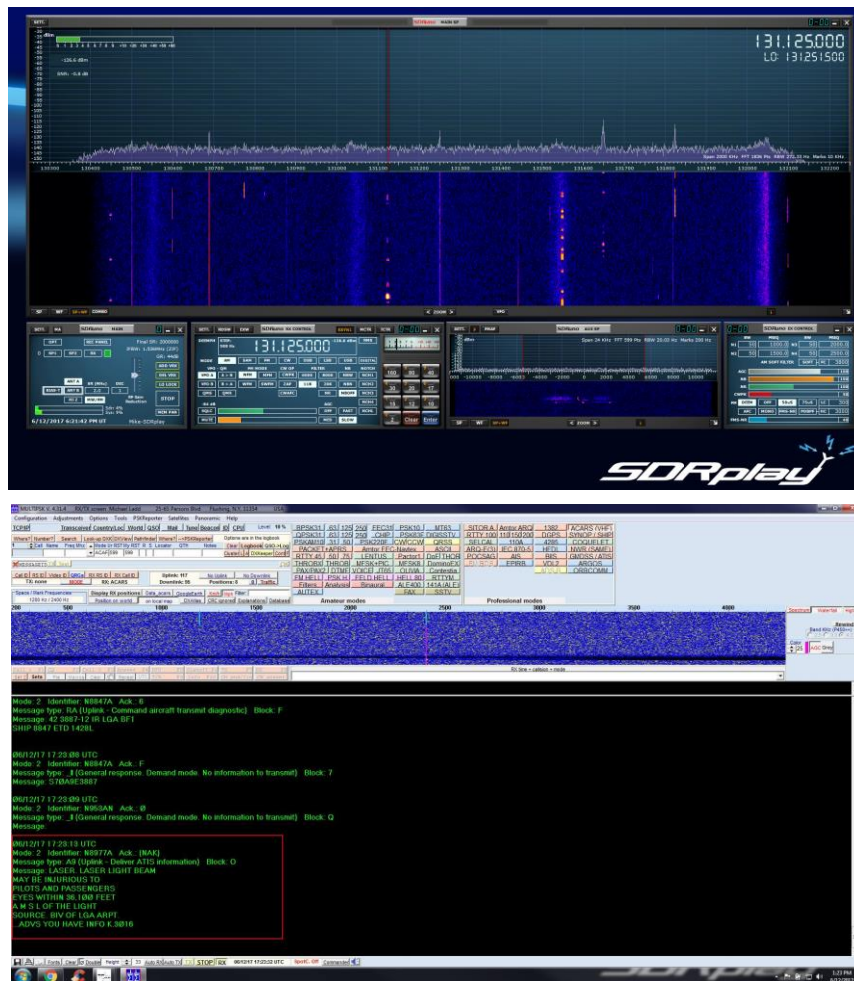


Decoding ACARS messages using SDRuno and MultiPSK

6/18/2017

ACARS is an acronym for Aircraft Communications Addressing and Reporting System which is a digital communications system that aircraft use to send and receive short messages to and from ground stations.

ACARS messages transmit on VHF using AM at a frequency of 131.550 MHz, the messages you can receive will be from nearby aircraft and ground stations. 131.550 MHz is not the only frequency used in most regions.



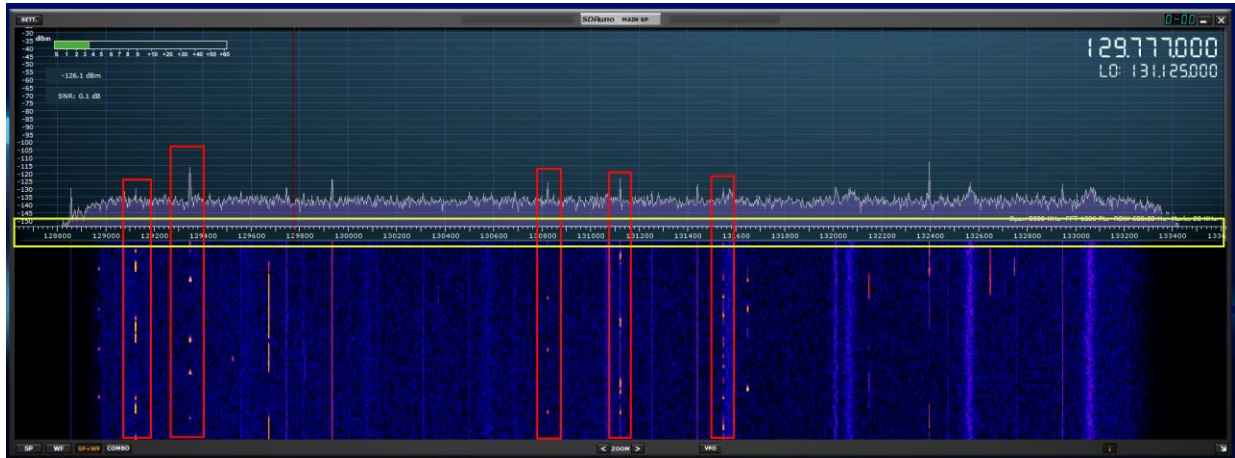
You will need either VB-Cable or VAC installed and configured. This will allow you to pipe the audio out of SDRuno into the MultiPSK decoder.

<http://vb-audio.pagesperso-orange.fr/Cable/>

<http://software.muzychenko.net/eng/vac.htm>

Finding ACARS messages you can decode.

Most ACARS packets will be on the primary 131.550 MHz frequency. Various other frequencies will also be used.



(131.550 Primary Channel worldwide) (129.125 Additional channel for USA & Canada) (130.025 Secondary channel for USA and Canada) (130.425 Additional channel for USA) (130.450 Additional channel for USA & Canada)(131.125 Additional channel for USA)(136.700 Additional channel for USA)(136.750 Additional channel for USA) (136.800 Additional channel for USA)(136.850 SITA North American Frequency)

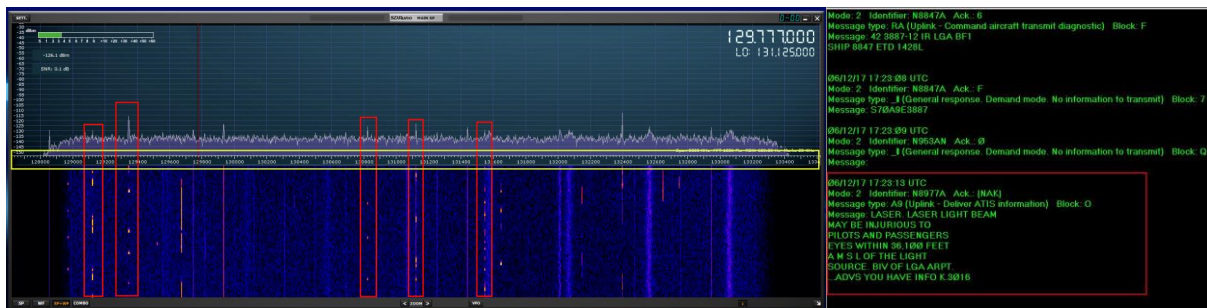
* Launch SDRuno and select the frequency you want to monitor. The Mode in SDRuno is AM with the filter set at 11k.



* Launch MultiPSK and select ACARS (VHF)

BPSK31	63	125	250	FEC31	PSK10	MT63	SITOR A	AmTOR ARQ	1382	ACARS (VHF)
QPSK31	63	125	250	CHIP	PSK63F	DIGISSV	RTTY 100	110 150 200	DGPS	SYNOP / SHIP
PSKAM10	31	50		PSK220F	CW/CCW	QRSS	SELCAL	110A	4285	COQUELET
PACKET+APRS				AmTOR FEC-Navtex	ASCII		ARQ-E(3)	I-FEC 870-5	HFDL	NWR (SAME)
RTTY 45	50	75		LENTUS	Pactor1	DoF THOR	POCSAG	AIS	BIIS	GMDSS / ATIS
THROBX THROB				MFSK+PIC	MFSK8	DominoEX	FM/RDS	EPIRB	VDL2	ARGOS
PAX/PAX2 DTMF				VOICE JT65	OLIVA	Contestia			ADS-B	ORBCOMM
FM HELL PSK H				FELD HELL	HELL 80	RTTYM				
Filters Analysis				Binaural	ALE400	141A (ALE)				
AUTEX					FAX	SSTV				
Amateur modes							Professional modes			

* Wait for the distinct ACARS burst and watch the lower decoder section of MultiPSK.



* Center the peak of the carrier as shown in the AUX SP Module

Display the ACARS flight positions on a map inside of MultiPSK.

The screenshot shows the MultiPSK software interface. The top menu bar includes Configuration, Adjustments, Options, Tools, PSKReporter, Satellites, Panoramic, and Help. The toolbar contains various icons for TCP/IP, Transceiver, Country/Loc, World, QSO, Mail, Tune, Beacon, ID, and CPU. The log window displays ACARS messages, including flight information such as "08/12/17 7:20:29:12 UTC Mode: 2 Identifier: N204JQ Ack: B". The message window shows a list of ACARS messages with columns for File, Comment, d.m.c. (B3), d.m.c. (B6), d.m.c. (B3), and d.m.c. (B6). The map window shows a map of North America with several aircraft positions marked. The map window also includes a table of maps to define by the user, with columns for File, Comment, d.m.c. (B3), d.m.c. (B6), d.m.c. (B3), and d.m.c. (B6). The map window also includes a table of maps to define by the user, with columns for File, Comment, d.m.c. (B3), d.m.c. (B6), d.m.c. (B3), and d.m.c. (B6).

The screenshot shows the MultiPSK software interface with the Adjustments menu open. The menu includes Configuration, Adjustments, Options, Tools, PSKReporter, Satellites, Panoramic, and Help. The Adjustments menu is open, showing options for TCP/IP, Transceiver, Country/Loc, World, QSO, Mail, Tune, Beacon, ID, and CPU. The Adjustments menu also includes options for Uplink, Downlink, Positions, and Traffic. The Adjustments menu also includes options for Space / Mark Frequencies, Display RX positions, Data_acars, GoogleEarth, Km/h, Mph, Filter, CRC ignored, Explanations, and Database.

- * Select MPH as shown to have MultiPSK show aircraft speed in MPH vs Km/h.
- * Select Explanations to have MultiPSK explain what is being decoded.
- * Select on local map as shown. Select your region as shown and select Close with storage as shown.