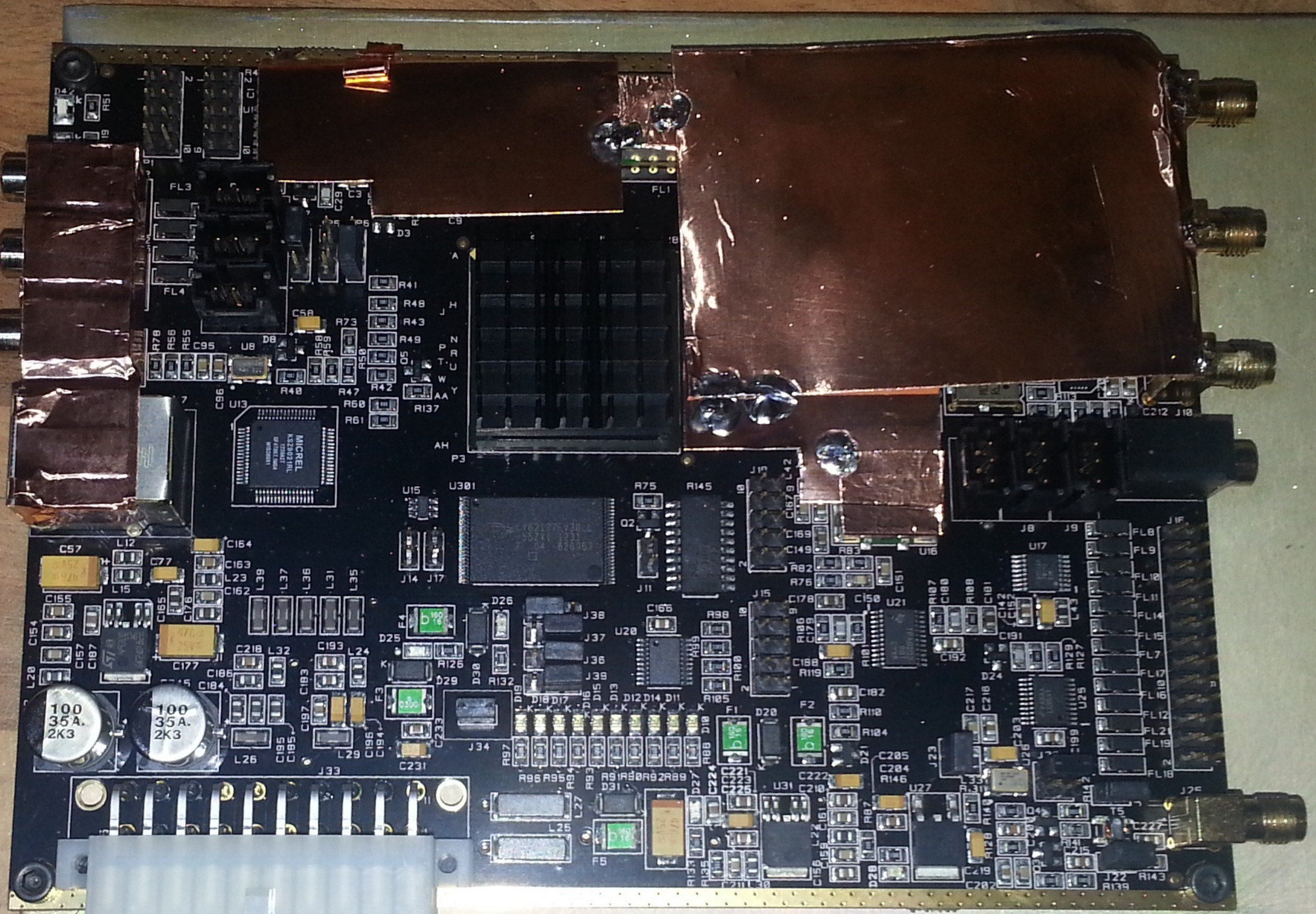
HF DSP Receivers comparison chart

	Hagenuk (HMK-EADS) RX3002	Racal (Thales) RA3791	Rohde&Schwarz EK896	Collins (Rockwell Collins) 95S1	WJ (BA) WJ8711A/HF1000A	TEN-TEC RX-340	JRC NRD-371	Redifon-MEL (Thales) R6100S/D	Best
Max.input (Operating)	+47dBm	+39dBm	+30dBm with option +59dBm	+10dBm				with pre/post sel. +47dBm	HMK-EADS
Sensitivity SSB (Pre-amplifire off)	-113dBm BW 2.4KHz SINAD 10dB	-113dBm BW 2.7KHz S/N 13dB	-113dBm BW 2.7KHz S/N 10dB	-115dBm BW 3.2KHz SINAD 10dB	-113dBm BW 2.4kHz SINAD 10dB	-112dBm BW 3.2kHz S/N 10dB	-112dBm BW 2.4kHz S/N 10dB	-113dBm BW 3kHz SINAD 10dB	Collins
Intercept Point IP2 IP3	> >+30dBm(+35--- +41dBm) (0dBm 30kHz Sep.)	> >+30dBm Typ.+32dBm (-13dBm 20kHz Sep.)	> >+70dBm >+30dBm Typ.+35dBm (0dBm 30kHz Sep.)	> >+80dBm >+25dBm	> >+44dBm/Typ.+60dBm >+27dBm/Typ.+30dBm	> Typ.+75dBm/Min.+60dBm Typ.+30dBm/Min.+25dBm (0dBm 100kHz Sep.)	> +30dBm Typ.+32dBm	> +25dBm	HMK-EADS R & S
Out of band IP3 with pre/post selector	>+65dBm(+70--- +76dBm)		>+50dBm (+55dBm)		>+47dBm	>+45dBm		>+55dBm 5%&10% Sep	HMK-EADS
Desensitization Signal 20KHz 30KHz 80KHz SINAD	?-113dBm BW:2.4kHz 70dB 80dB 20dB	-113dBm BW:2.7KHz 102dB 115dB 10dB	-83dBm BW:3.1KHz 80dB 20dB	-103dBm BW:4.8KHz 80dB 86dB 97dB 10dB					Racal
Blocking Dynamic Range	138dB				>107dB		109dB		HMK-EADS
IMD Dynamic Range					>97dB				
Crossmodulation Signal Interfering signal Transfer Interfering signal level	-53dBm 50% 1kHz Mod/20kHz Sep -20dB +21dBm	-53dBm BW:2.7KHz 30% 1KHz Mod/20KHz Sep -20dB +7dBm	-33dBm Bw:3.1KHz 30% 1KHz Mod/30KHz Sep -20dB +21dBm						HMK-EADS
Blocking Signal Interfering signal Compression Interfering signal level	-53dBm 50% 1kHz Mod/20KHz Sep 1dB +21dBm	-53dBm 30% 1KHz Mod/20KHz Sep 3dB +13dBm	-53dBm 30% 1KHz Mod/30KHz Sep 1dB +23dBm		-107dBm 20KHz Sep 3dB -47dBm	-40dBm 30% 1kHz Mod/200kHz Sep 3dB >+15dBm		100kHz 3dB +7dBm	HMK-EADS R&S
Out of band intermodulation products Signal level IMD3	(2x 0dBm 30kHz Sep) (<-60dB) 2x -13dBm 30KHz Sep <-86dB	2x -13dBm 20KHz Sep <-90dB	2x -13dBm 20KHz Sep <-100dB						R&S
In band IMD Signal level IMD3 (< -60dB)	2x-13dBm 1.2KHz Sep -45dB	2x -13dBm 600Hz Sep -55dB	2x 0dBm 600Hz Sep -40dB					2x -6dBm -50dB	Racal
IF rejection	>100dB	>100dB	>90dB	>80dB (>100dB)	>90dB	90dB	>85dB	>80dB	HMK-EADS Racal
Spurious	-100dBm	-87dBm	-124dBm	-115dBm		-119dBm			R&S
AGC Attack time Decay time AGC error	<10ms 25ms 200ms 500ms 1s 3s (-119dBm to +1dBm) 120dB <3dB (>130dB)--- <4dB	(-107dBm to +13dBm) 120dB ≦2dB	<10ms 25ms 150ms 500ms 1s 3s (-113dBm to +7dBm) 120dB <3dB	(-121dBm to 0dBm) 121dB ±1.5dB	<15ms 25ms～4s	<10ms 10ms --- 99.9s	<10ms 10ms --- 5.0s		Racal
Phase noise 10Hz : -80dBc/Hz 100Hz : -100dBc/Hz 1kHz : -120dBc/Hz 2kHz : -125dBc/Hz 10kHz : -140dBc/Hz 20kHz : -145dBc/Hz 30kHz : -150dBc/Hz 100kHz : -160dBc/Hz 300kHz : -165dBc/Hz 1MHz : -170dBc/Hz	-106dBc/Hz -133dBc/Hz -143dBc/Hz		-55dBc/Hz -70dBc/Hz -90dBc/Hz -120dBc/Hz -160dBc/Hz -165dBc/Hz	-55dBc/Hz -90dBc/Hz -105dBc/Hz -110dBc/Hz -135dBc/Hz -145dBc/Hz		-120dBc/Hz	-110dB/Hz	-165dBc/Hz	R&S
IF BW Range SF (3dB/60dB) Inband Ripple	9steps 100Hz --- 7kHz 3 --- 2	100 steps 300Hz --- 12kHz	128steps 100Hz --- 9kHz <1.5	74steps 100Hz --- 300kHz <1.5	66steps 56Hz --- 16kHz <1.5	57steps 100Hz --- 16kHz <1.5	8steps 200Hz --- 10kHz	5steps 0.3,1.1,2.75,3.1,6kHz	HMK-EADS
External frequncy standard	10MHz 0dBm +-10dBm	1MHz 5MHz 10MHz 0dBm(typ)	1MHz 5MHz 10MHz 0.2 to 1Vrms	1MHz 5MHz 10MHz 0dBm(typ)	10MHz	1, 2, 5, 10MHz 200mVp-p	10MHz -10dBm		NA
Data Interface	RS-232C RS-422 RS-485	RS-423A (RS-232C)	RS-232C RS-485	RS-232C RS-422 RS-485	RS-232C	RS-232C	RS-232C		NA
I/Q outputs	Option	Option	Digital 16-bit	Digital 16-bit					NA
		Discon.		1st CM DCR	Discon.		JSDF spec.		NA


MICREL
100
35A.
2K3
100
35A.
2K3


Copyright 2012- Apache Labs Pvt Ltd
ANAN-100/ANAN-100D 100W PA/FILTER BOARD

Receiving Directivity Factor (RDF)

- 4 dB: small diameter loop
- 5 dB: a single vertical antenna (1/4 wavelength vertical and short verticals)
- 4 - 6 dB: 250 - 400 foot Beverages and Beverage on Ground (BOG)
- 6 - 8 dB: array of small loops

  (flag, pennant, ewe, K9AY, **shared apex loop array**)
- **9 dB**: two element array of short verticals or a triangle array

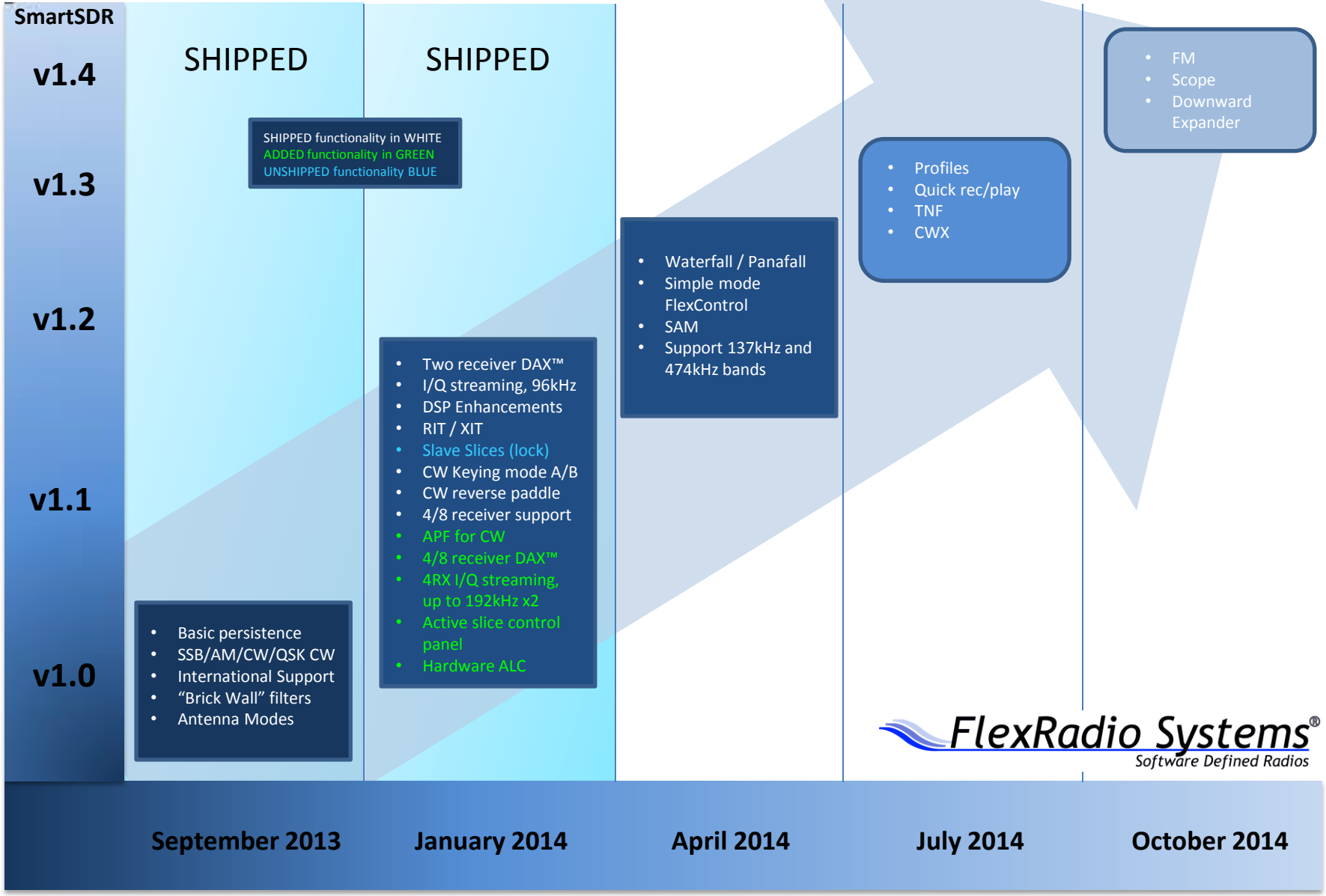
  (65 foot spacing)(20m)
- 10 dB: 500 - 600 foot Beverage
- 11 dB: two close spaced 500 - 600 ft Beverages staggered 65 feet
- 12 dB: 800-900 foot Beverage
- **12 dB**: 4-square array of short verticals only 65 feet on a side

  (1/10 acre)(400㎡⇒ 1000㎡)
- 13-14 dB: 4 short verticals or a steerable 8-circle array of short verticals (1 - 3 acres)

  (4000㎡～12000㎡)
- 14 dB 2 broadside, staggered 800-900 ft Beverages separated 350 ft (8 acres or more)
- 14-16 dB: 3 broadside 800-900 ft Beverages and arrays of 8 short verticals (5 - 20 acres)

CTU2014 W3LPLより

SmartSDR™ Technology Roadmap



SmartSDR Roadmap Feature Descriptions

Feature	Brief Description
Basic persistence	Remembering common settings across power sequences
SSB/AM/CW/QSK CW	Support for these modes
International Support	Ability to alter the radio transmit regions to match many international amateur allocations and MARS
“Brick Wall” filters	Increase filter skirt steepness by 4x over preview version
Antenna Modes	Support for a wide array of antenna modes in both receive and transmit
Two receiver DAX™	Ability to stream 24ksps audio data through a digital audio channel on Windows and present as a sound card on the Windows PC for both transmit and receive
I/Q streaming, 96kHz	Stream 96kHz bandwidth I/Q data to remote clients as either UDP or DAX streams
DSP Enhancements	NB/NR/ANF/AGC enhancements
RIT / XIT	Receive and Transmit incremental tuning with usable control
Slave Slices (lock)	Ability to lock two slices together so they track frequency
CW Keying mode A/B	Support for both A and B CW iambic modes
CW reverse paddle	Ability to select reverse paddle (swap dot/dash)
4/8 receiver support	Support for 8RX in FLEX-6700 and 4RX in FLEX-6500
Waterfall	Waterfall in SmartSDR-Windows client
Simple mode Flex Control	Support for the FlexControl programming in “simple mode” (select from predefined set of functions)
Profiles	Receive and transmit profiles to store settings
Panafall	Simultaneous Pandapter and Waterfall
Quick rec/play	Record and Playback post-processed audio (after filters, AGC, etc)
TNF	Tracking Notch Filter™
CW Keyboard	Keyboard generated CW
SAM	Synchronous Amplitude Modulation receiver
FM	Frequency Modulation
Scope	Oscilloscope function in SmartSDR-Windows
Downward Expander	Enhanced audio noise gate for transmit

Product Specifications

KSM353/ED Premier Bi-directional Ribbon Microphone

Overview

The KSM353 is a premium bi-directional ribbon microphone crafted for pristine audio in studio and concert hall applications. Proprietary Roswellite® technology provides revolutionary ribbon resilience and durability under extreme conditions. Hand assembled in the USA from state-of-the art transducers, transformers and metals as the pinnacle of Shure quality for prestigious vocal and acoustic performances.

KSM353/ED

Features

- Bi-directional polar pattern delivers premier, completely symmetrical audio with superior off-axis rejection
- Revolutionary Roswellite® proprietary ribbon material replaces traditional foil ribbons with high tensile strength, toughness and shape memory that provides superior resilience at extreme SPLs
- Patented custom ribbon motor assembly tailors bass response without attenuating the overall output for full low and mid ranges, and superior upper range presence from a rising frequency response
- Double-shielded matched full-sized transformer minimizes signal loss and maximizes output while reducing magnetic and RF interference from 90 degree placement, offset relative to the ribbon
- 146dB SPL / 30 – 15,000 Hz frequency response ideal for capturing fast transients in vocals, acoustic instruments and concert hall performances
- Legendary Shure quality and superior construction from hand-assembly of machined steel, silver, gold and aluminum materials, and housed in a pure stainless steel casing
- ShureLock® wire rope shock mount for secure thread-locked mounting with maximum isolation
- Locking aluminum flight case for storage when not in use

Available Models

KSM353/ED	includes shock mount, aluminum flight case, polishing cloth, velveteen pouch

Specifications

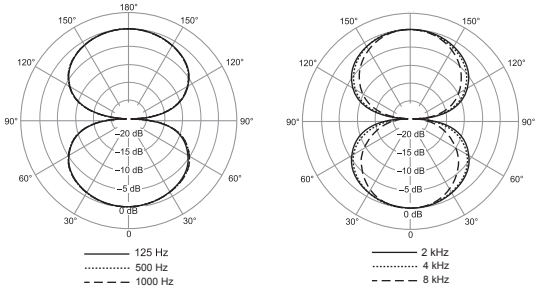
Transducer Type	Roswellite® Ribbon
Frequency Response	30Hz – 15,000Hz
Directional Polar Pattern	Bidirectional
Output Impedance	Transformer, balanced, actual 330 Ω
Polarity	Positive pressure on front side of ribbon produces positive voltage on pin 2 relative to pin 3, pin 1 ground
Sensitivity (at 1 kHz, open circuit voltage)	-53.5 dBV/Pa (2.11 mV/Pa)
Dimensions & Weight	Diameter: 4.83 cm (1.9 in) Height: 15.75 cm (6.2 in) Weight: 633 g (1.4 lbs) Weight: 950 g (2.11 lbs) w/ Shock mount
Max SPL	146 dB
Connector	Three pin professional audio (XLR) male

Included Accessories

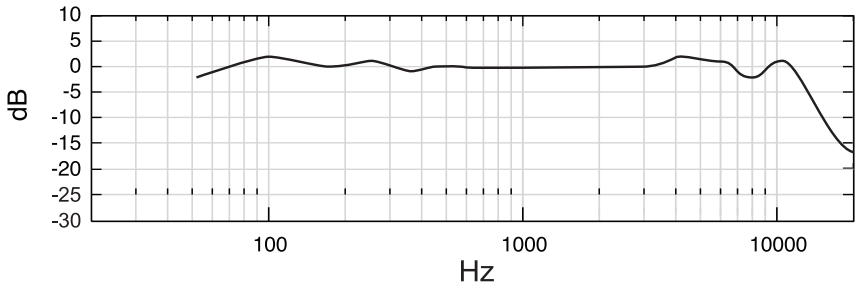
A300SM	ShureLock® Wire Rope Shock Mount	**A353SC**	Aluminum Flight Case
A300PC	Polishing Cloth	**A353VB**	Velveteen Pouch

Optional Accessories

A300M	ShureLock® Stand Mount



Polar Pattern



Frequency Response

SHURE®
LEGENDARY PERFORMANCE™

www.shure.com

PRO OVAL STUDIO

これぞ極めつけのプロ仕様シールド。単一結晶銅使用。導体の太さは18ゲージ。世良さん、櫻井さん、樋沢さん、クジラさん、小松さん、萩谷さん、上田さん他ご愛用。一度サウンドを弾いてしまうと、もう、「他のものには戻れない」そうです…


VU
Focusrite
Producer Pack
ISA430


tc electronic®
ERROR
48000Hz
44100Hz
32000Hz
ANALOG IN
DIGITAL IN
DUAL MONO
EDITED
+12
+6
+3
0
-3
-6
-9
-12
-15
-20
GAIN
LO OPTIMIZE HI
LIMIT
INPUT
OUTPUT
L
R
dB -60 -40 -30 -24 -20 -18 -16 -14 -12 -10 -8 -6 -4 -2 0
LOUDNESS CONSISTENCY PROCESSOR DB2
UTILITY
OK

SyncroGenius *HD*-Pro

GENLOCK / MASTER VIDEO & AUDIO SYNC GENERATOR

Genlock / Master Sync Generator especially designed to cater for all video and digital audio synchronisation requirements within the post-production, studio and broadcasting industry.

Will Genlock to:

- HD Tri-level sync and SD Bi-Level sync video signals.
- AES/SPdif and Word Clock digital audio reference sync signals.
- LTC audio time code.
- GPS 1MHz. 2MHz, 2.5MHz, 5MHz, &10MHz reference clock.

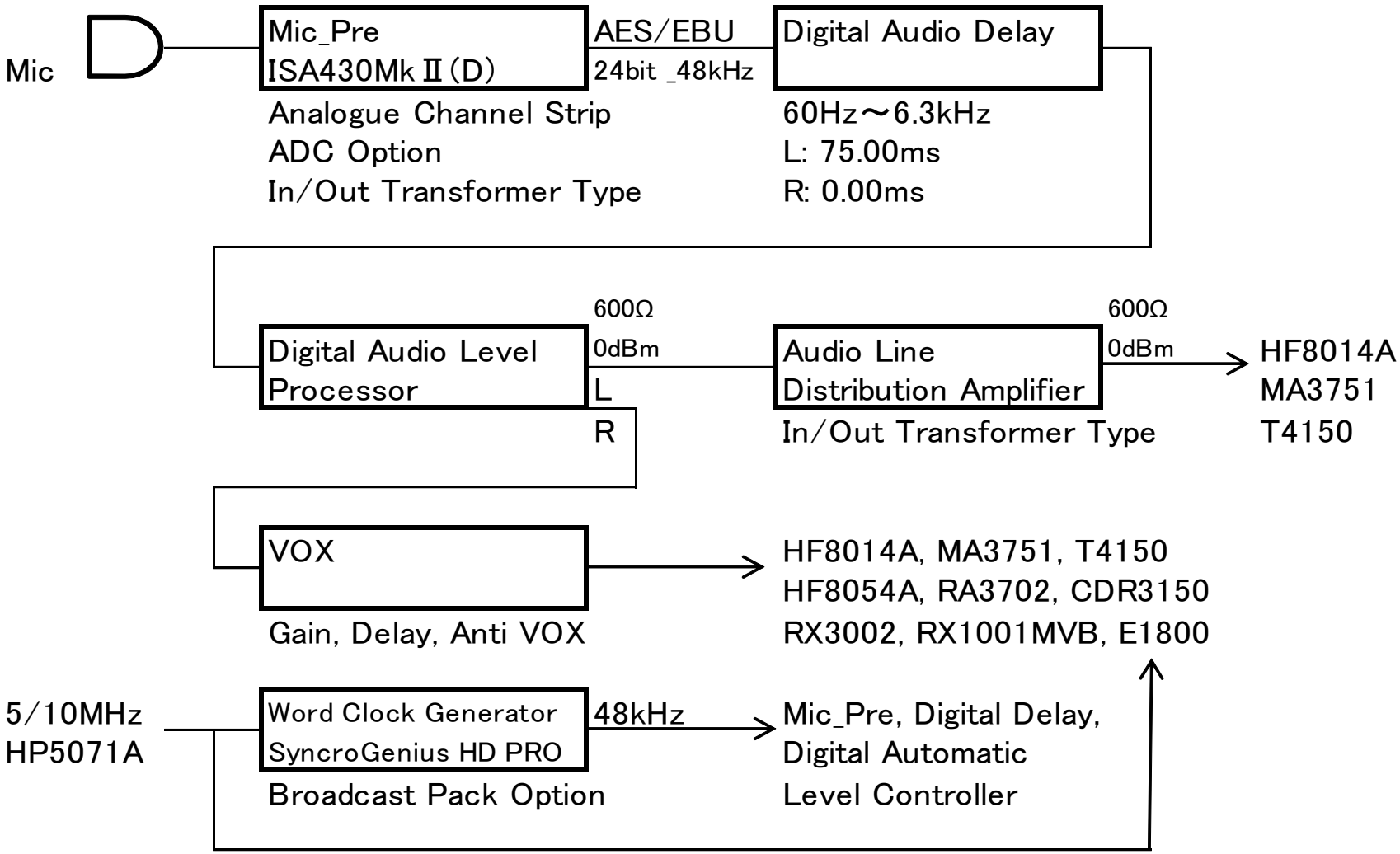
Major Features include:

- Selectable input reference with auto detection of video formats.
- All HD frame rates independently selectable in progressive scan/interlaced 1080 or 720.
- All SD frame rates independently selectable and available separately to HD frame rates.
- HD & SD outputs can be genlocked to any input reference or set as master house sync.
- Simultaneous AES & Word Clock outputs genlocked and phase coherent to input reference or set as studio master clock.
- *Softlock*® keeps frame & clock output integrity when video input reference is interrupted with no disturbance when reference is re-established.
- Pull up/down sample rate adjustable to suit all film, video and audio applications.
- Ultra low jitter performance & ultra high frequency stability using **true DDS** direct digital synthesis.
- Memory settings for up to 3 individual recallable input/output configurations.
- GPI 9way D connector giving front panel memory setting remote control, PSU & Genlock status.
- Tamper proof front panel “lockout” switch.
- Broadcast Pack Option - Adds Ovened crystal for AES-3 Grade 1 (0.7ppm over 12months) output reference and/or dual mains inlets and dual power supplies.

The SyncroGenius HD-Pro has been designed to solve all the synchronisation issues currently found in video and audio production. It is already proving to be an essential component in the film, video and professional audio market.

Audio & Design Reading Ltd
51 Paddick Drive, Lower Earley, Reading, Berks RG6 4HF
Tel: +44 (0)118 324 0046, Fax: +44 (0)118 324 0048
email: sales@adrl.co.uk web: www.adrl.co.uk


10MHz
+13dBm
DC
AC


Mic
Mic_Pre
ISA430Mk Ⅱ(D)
Analogue Channel Strip
ADC Option
In/Out Transformer Type
AES/EBU
24bit _48kHz
Digital Audio Delay
60Hz～6.3kHz
L: 75.00ms
R: 0.00ms
600Ω
0dBm
Digital Audio Level
Processor
L
R
600Ω
0dBm
Audio Line
Distribution Amplifier
In/Out Transformer Type
HF8014A
MA3751
T4150
VOX
Gain, Delay, Anti VOX
HF8014A, MA3751, T4150
HF8054A, RA3702, CDR3150
RX3002, RX1001MVB, E1800
5/10MHz
HP5071A
Word Clock Generator
SyncroGenius HD PRO
Broadcast Pack Option
48kHz
Mic_Pre, Digital Delay,
Digital Automatic
Level Controller


CRYSTAL SELECTIVITY
OFF
PHASING
BEAT OSCILLATOR
SEND
REC.
SUPER-PRO
HAMMARLUND MFG. CO., INC.
NEW YORK
BAND WIDTH
LIMITER
OFF ON
AVC.
MANUAL
MAIN TUNING
OFF ON
SENSITIVITY
BAND SPREAD
SIGNAL
MOD CW
PHONES
AUDIO GAIN