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OVERVIEW

This procedure may be performed after installation of a standard Receiver, Multicoil Receiver, Receiver 0 for Fast Receiver, or a Fast Receiver Module to inspect BACC plots. BACC must be run before EPT.

Asymmetry of the receiver analog filter response leads to ghosting artifacts with EPI. If the receiver response is known, the ghosting artifact is easily removed. The Bandwidth Asymmetry Correction Characterization (BACC) test is a loopback characterization to measure the frequency response. Ghosting artifacts in the phase encode direction occur with both the Fast Receiver (FR) and Standard Receiver (SR), and in both single-shot and multishot EPI acquisitions. The BACC must characterize all SRs and FRs that reside on any EPI-compatible system.

1- SCAN PREPARATION

1. Landmark on some point on the cradle (the scan uses TPS/ISE loopback so no RF is actually transmitted to the coil).
2. At operator workspace, select the scan icon in the desktop control panel, if you have not already done so.
3. Click on **[Autoview]**, just below the Autoview image display screen; your images will display automatically.
4. At the operator work space, prepare the system for a Bandpass Asymmetry Correction scan using the "Service Protocols" procedure located under **[Software Utilities]** menu on the service methods CD-ROM, or for the alternate proprietary procedure, see below.

This alternate proprietary procedure is available for GE use, and to sites with a valid Advanced Service Package Limited License.

- a. Click on **[New Pt]**, and enter
Id: **geservice**
Name: **bacc**
Weight (Lb): **111**
Set Patient Protocols to **Service**.
 - b. In the Protocol field, type **o.42.1** (o=Other, 1=series number) to load the protocol.
5. Select **[Save Series]**, then **[Prepare to Scan]**.
 6. Change the following CV values, then click **[Accept]**:

rhtype1 = **8** (default)
cfrecvend = **0** (Non-multicoil) or
3 (Multicoil)
fast_rec = **0** (Normal Receiver(s)) or
1 (Fast Receiver if Available)
Always set fast_rec= **0** for first pass

Note

Running BACC twice: This characterization must be run twice if the Fast Receiver option is available: once with "fast_rec=0" for standard receiver[s]. and once with "fast_rec=1" for the Fast Receiver. Remember to press <Enter> for each parameter.

2- CORRECT CHARACTERIZATION

1. Select [**Download**].
2. Select [**Setup parameter**] and set R1=11 & R2=15, TG=200, then select [**Done**].
3. Select [**Manual Prescan**], then [**Done**].
4. Select [**Scan**]. The scan takes about two seconds.
5. Wait for analysis screen to display the complete analysis. Once up, press the <Enter> key on the keyboard to close the window.
6. If the Fast Receiver option is installed, run this scan again with the CV fast_rec=1. When the CV is changed, press <Enter> and then [**Accept**].
7. Select [**Manual Prescan**], then [**Done**].
8. Select [**Download**] under Research Modes, then [**Scan**].
9. Wait for analysis screen to display the complete analysis. Once up, press the <Enter> key on the keyboard to close the window.

3- DATA DISPLAY - CERD

From the Service Desktop, use the Report Manager to display BACC data files (these files have a ".BAT" file extension).

3-1 Header Data

The following is an example of BACC header data listing.

```
3A193912.BAT/0 Header Info RDF/GRP Revision: 1.0 /43
=====
SITENAME   = BAY 12
USN        = B15B0C0
MLN        = 9999
SRVCONFIG  = 09/27/95 15:28:55
EXCITER    = 000
RECEIVER   = S0/E0/PE0
XMTRFCOIL  = BODY
RCVRFKOIL  = BODY
FREQ       = 63866811 Hz
TIME       = 10/01/95 09:24:00
BASERUN    = 44032
CONFIGCODE = 001
SOFTREV    = 5.5
NUCLIDE    = 000
HEADERCODE = 0x00000000
RCVCOILGAIN = 1.880 R1 = 6 R2 = 14 TG = 135
----- Exam description -----
```

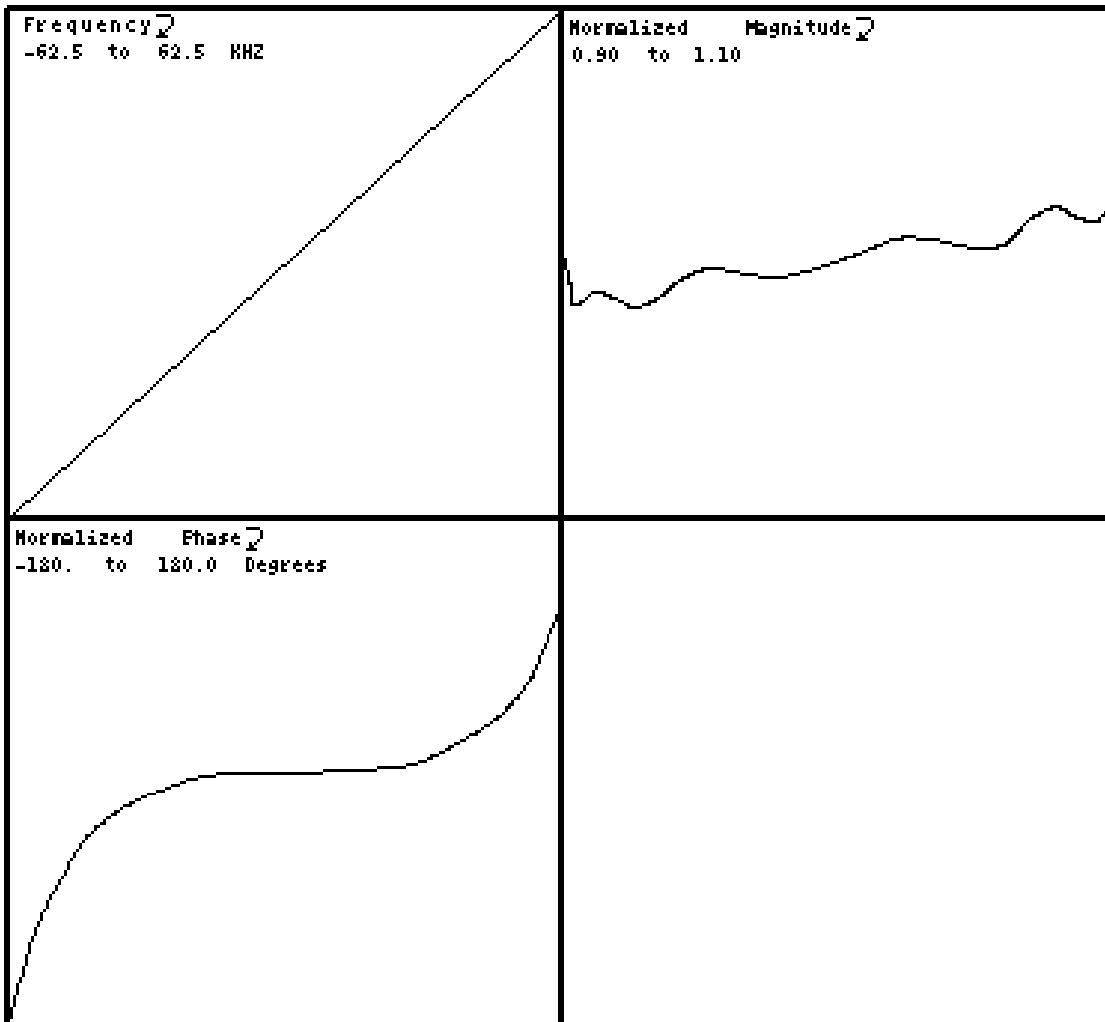
NO COMMENT

----- Series description -----

Select (Help, Group #, Next, Files, Quit) [N]: Enter desired selection.

3-2 Standard Receiver and Filter Displays - CERD

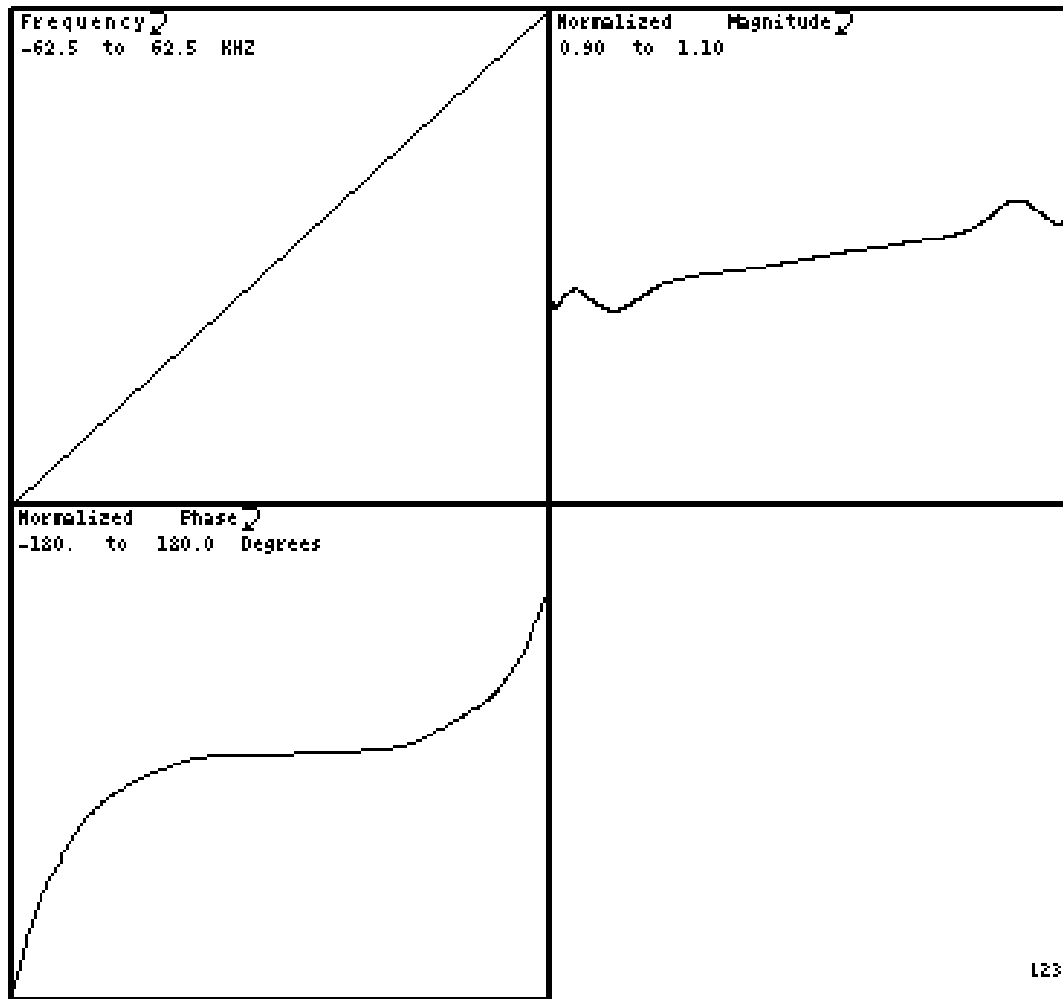
The following Illustrations are examples of plots for various receivers and filters:



N = 1000 L = 550 532A0252.EAT/1 BANDPASS FILTER INFO STANDARD RECEIVER 0

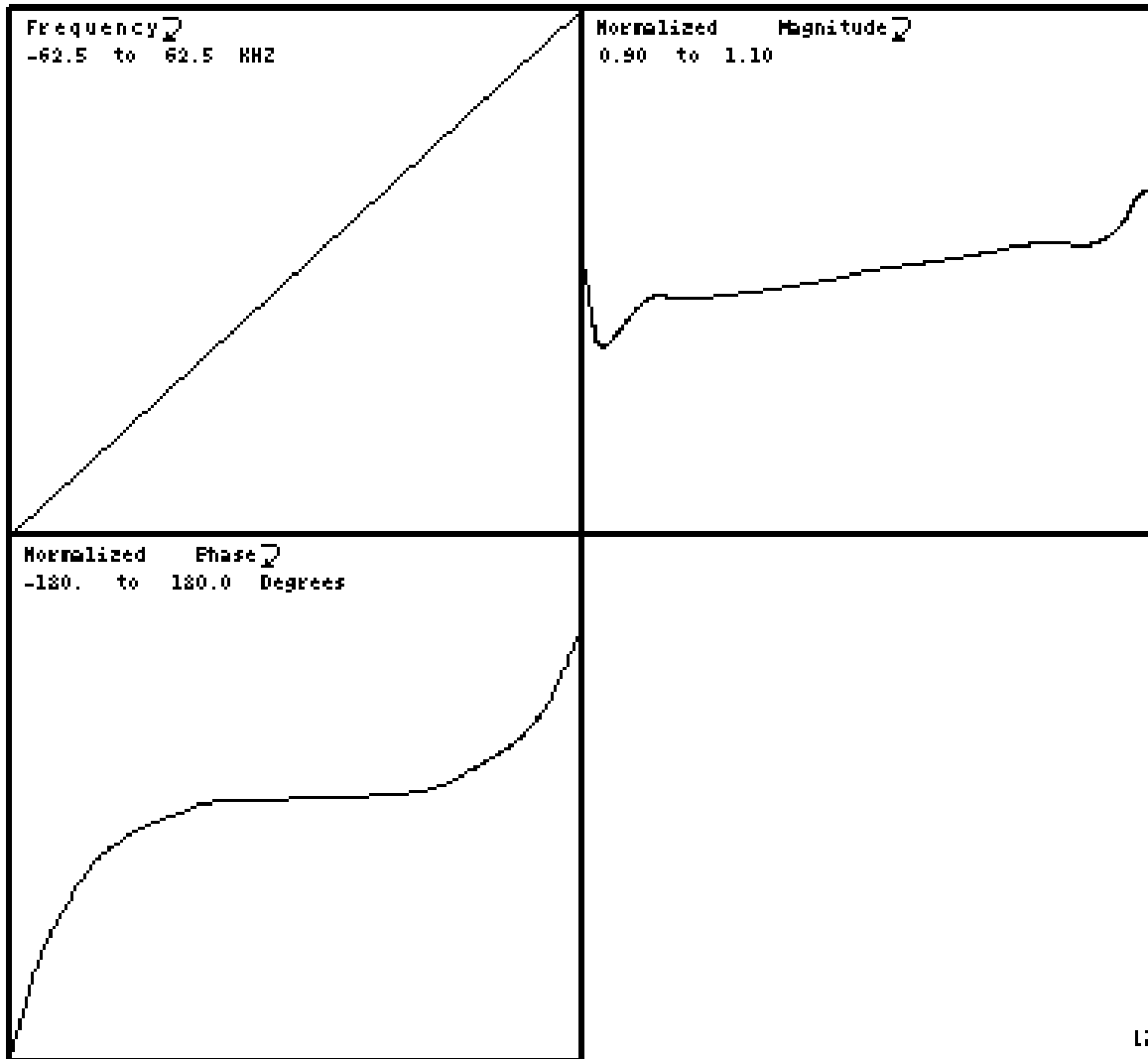
12301A

BACC RECEIVER 1 DISPLAY
ILLUSTRATION 3-1



N = 1000 L = 550 53240252.BAT/2 BANDPASS FILTER INFO STANDARD RECEIVER 1

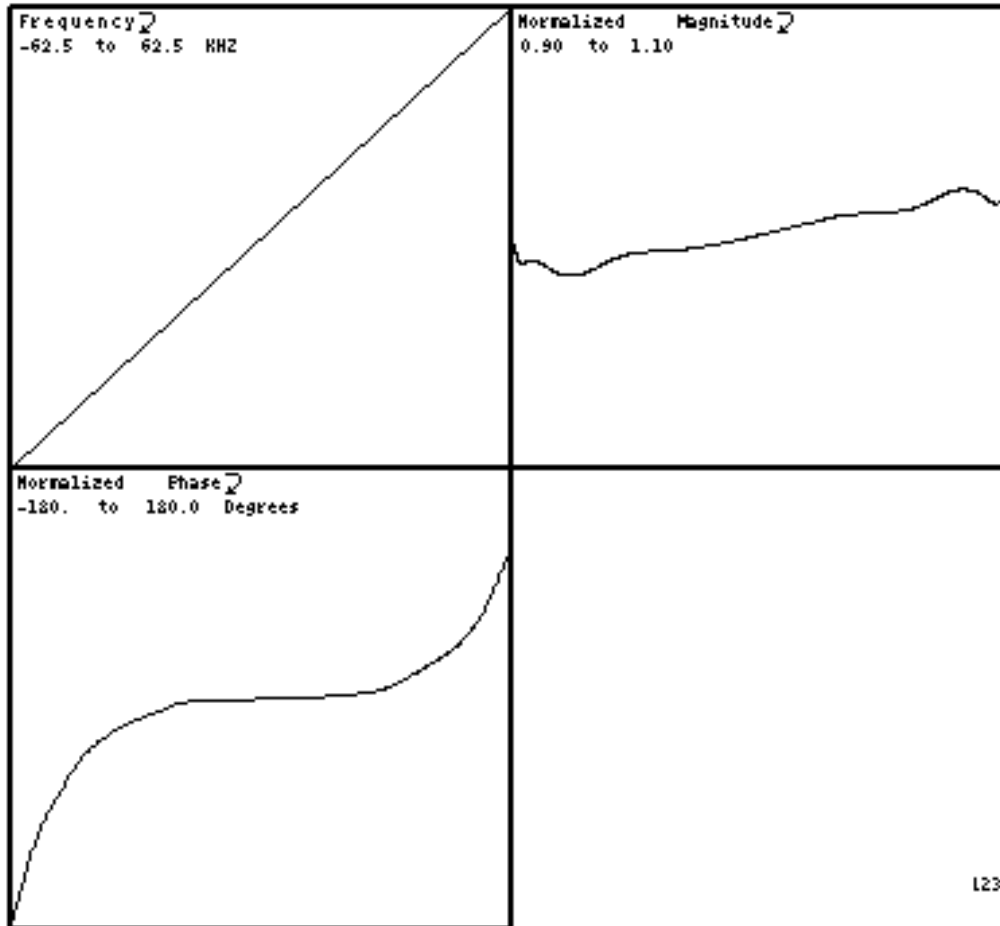
BACC RECEIVER 2 DISPLAY
ILLUSTRATION 3-2



123010

N = 1000 L = 550 532A0252.BAT/3 BANDPASS FILTER INFO STANDARD RECEIVER 2

BACC RECEIVER 3 DISPLAY
ILLUSTRATION 3-3



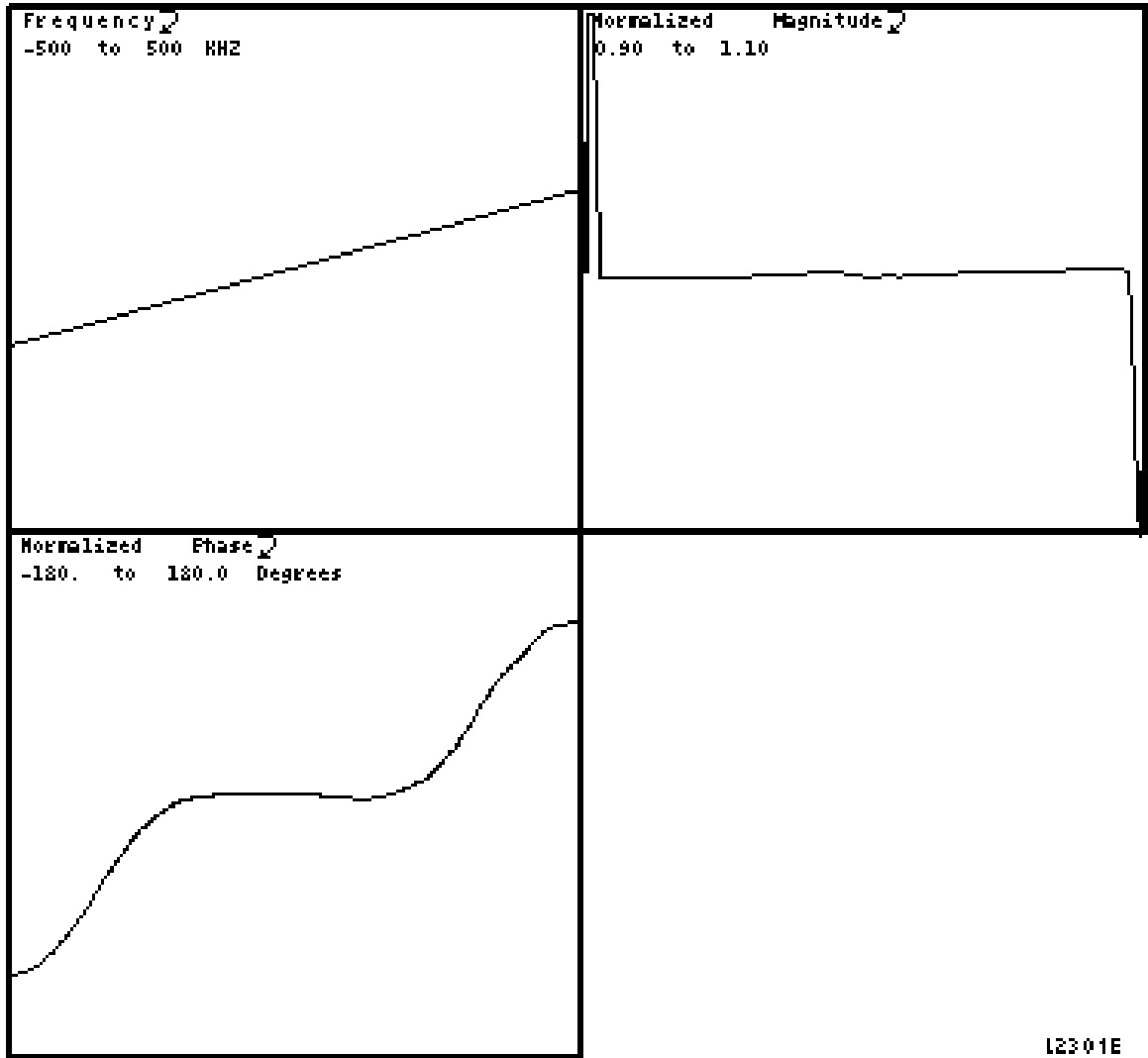
123010

V = 1000 G = 550 532A0252.BAT/4 BANDPASS FILTER INFO STANDARD RECEIVER 3

BACC RECEIVER 4 DISPLAY
ILLUSTRATION 3-4

3-3 Fast Receiver Filters and Displays - CERD

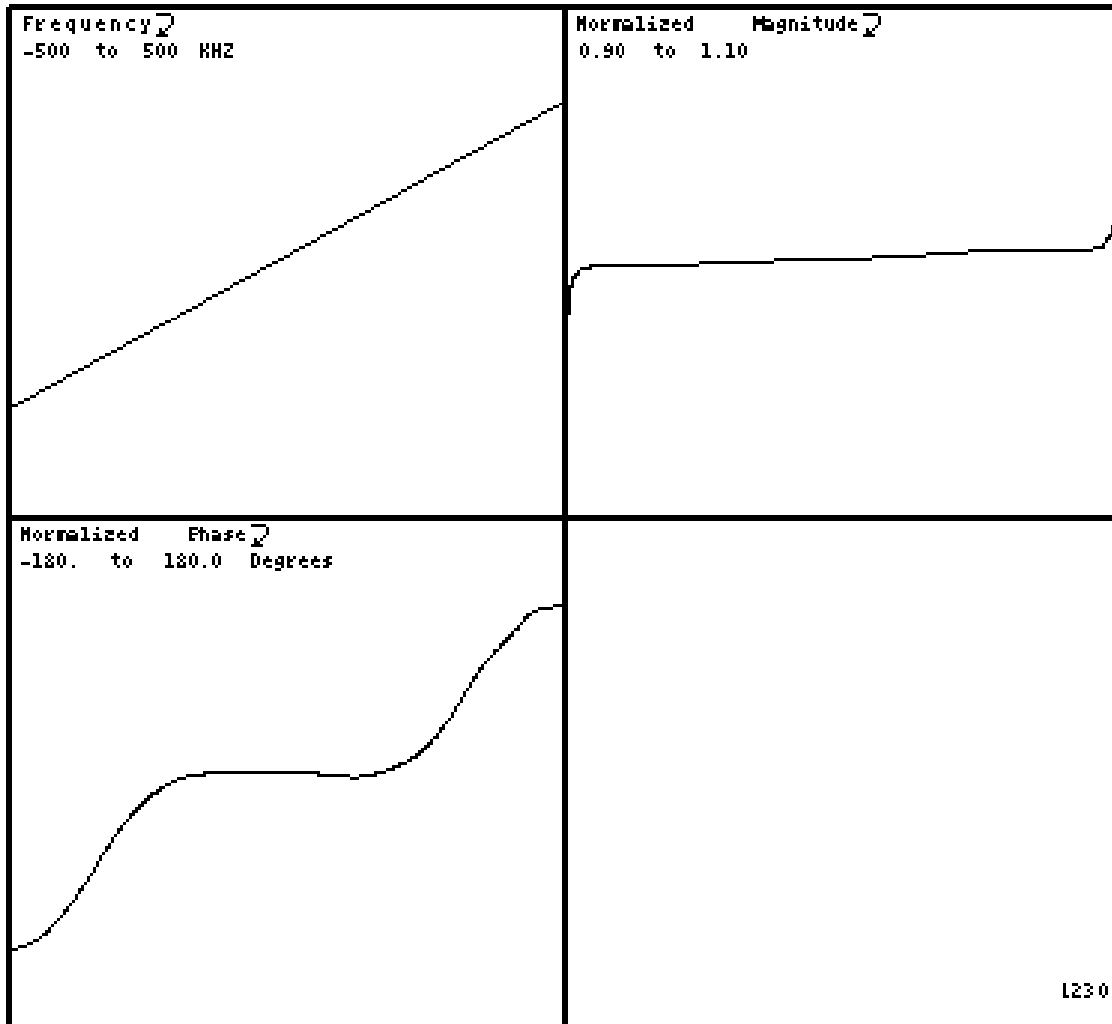
The following Illustrations are examples of plots for various receivers and filters:



V = 1000 L = 550 53280252.BAT/5 100 KHZ LOW PASS FILTER

12301E

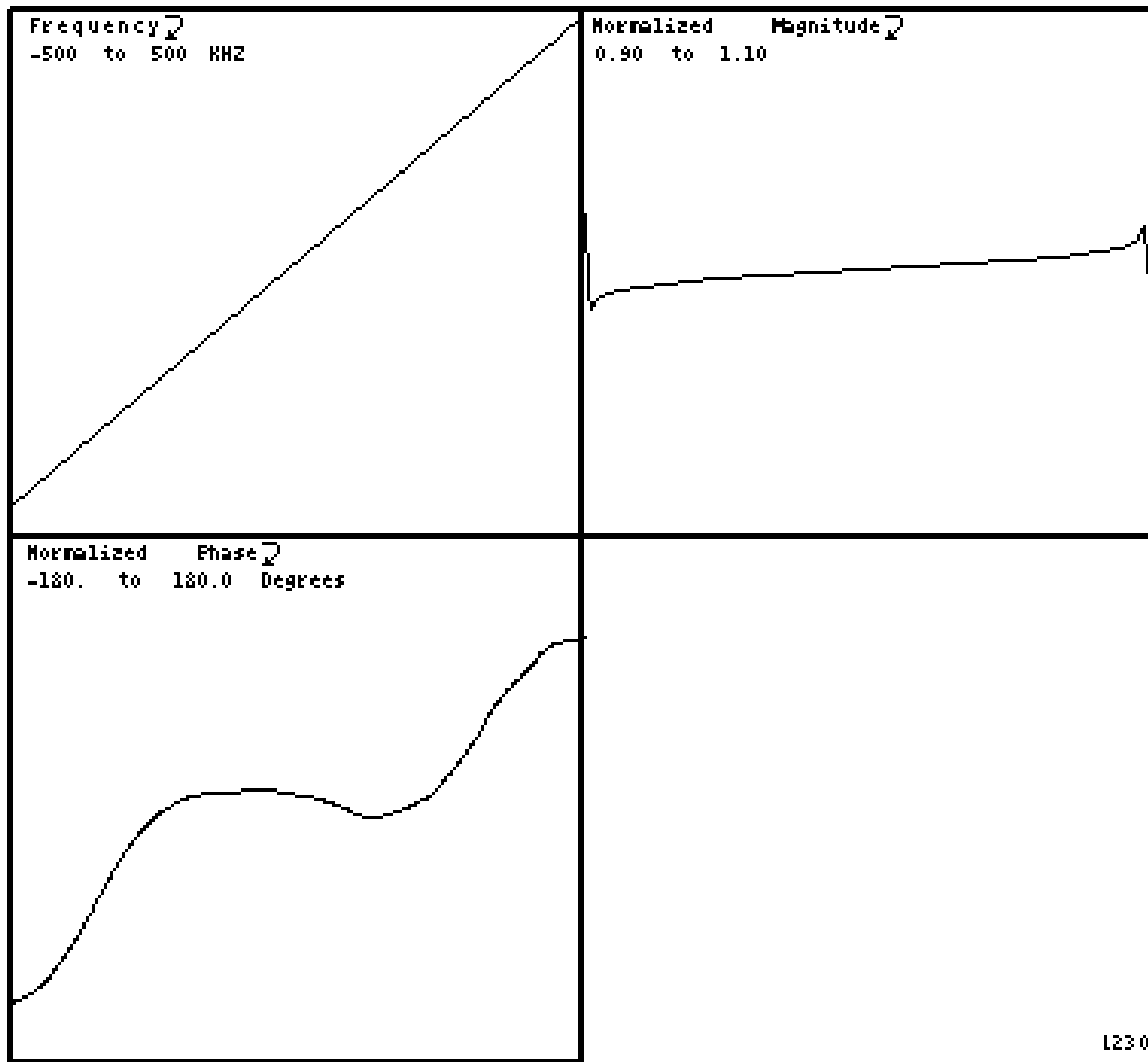
BACC FAST RECEIVER 100-KHZ FILTER DISPLAY
ILLUSTRATION 3-5



L2301F

W = 1000 L = 550 532A0252.EAT/6 200 KHZ LOW PASS FILTER

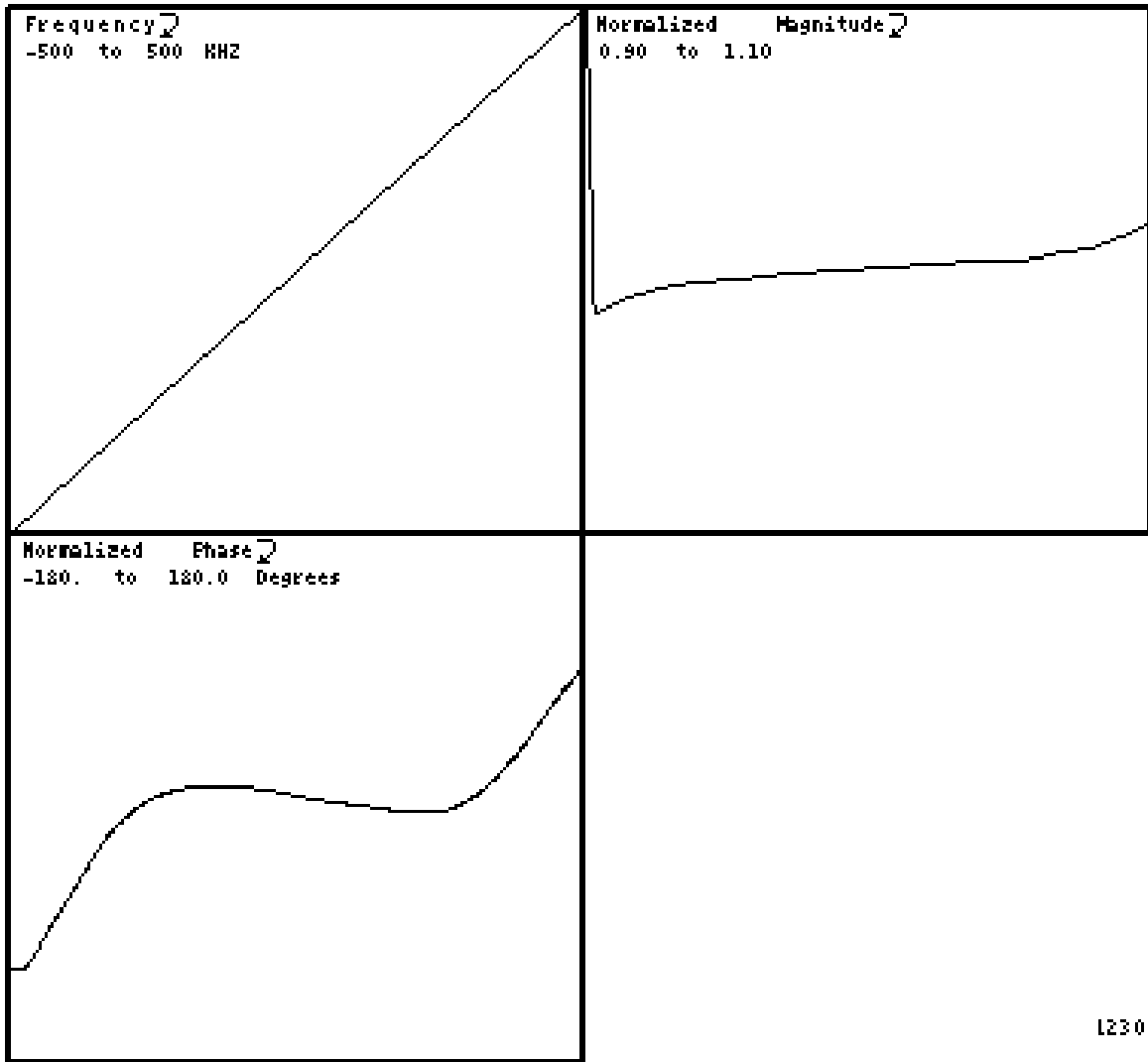
BACC FAST RECEIVER 200-KHZ FILTER DISPLAY
ILLUSTRATION 3-6



123016

N = 1000 L = 550 532A0252.BAT/7 300 KHZ LOW PASS FILTER

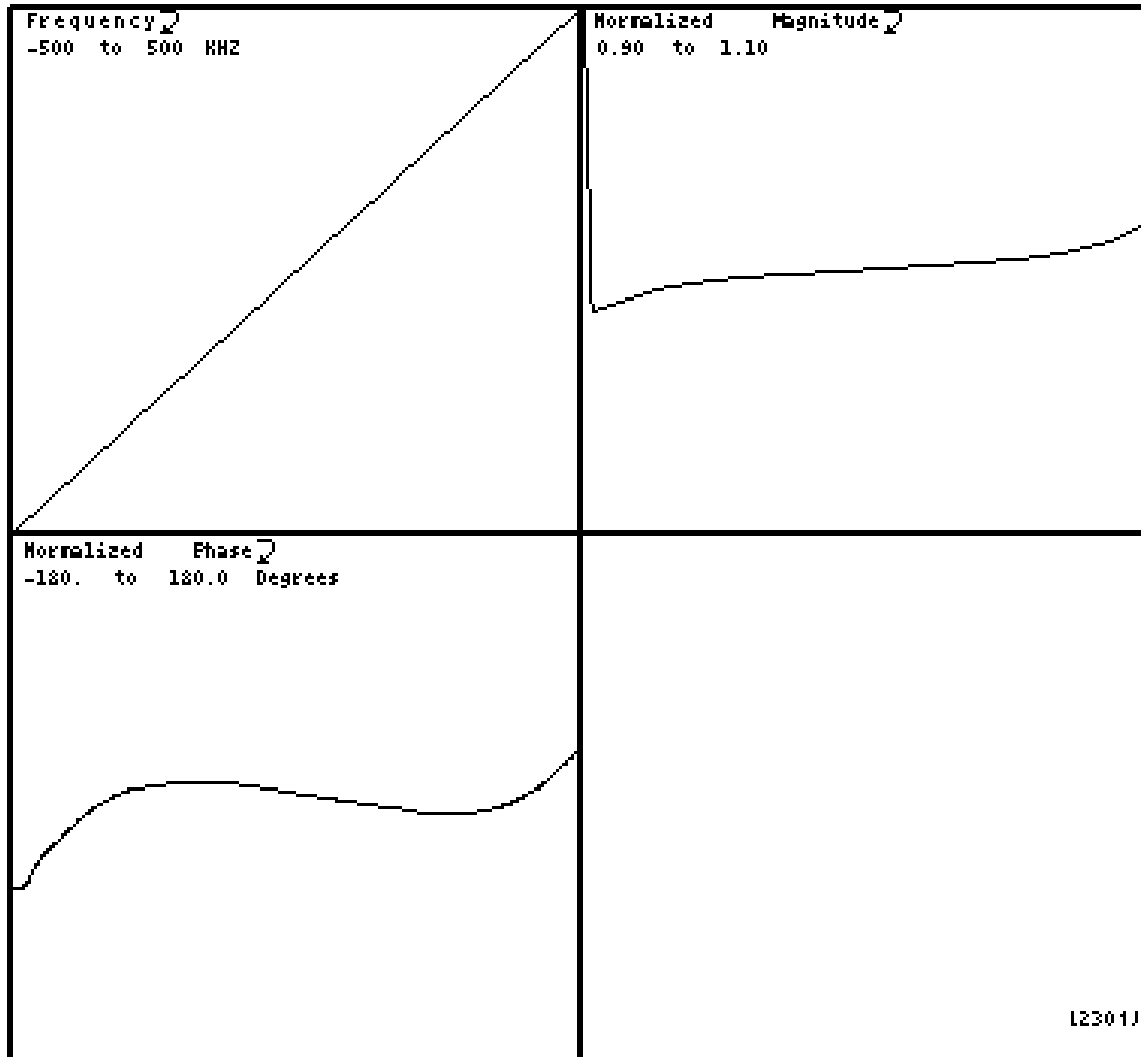
BACC FAST RECEIVER 300-KHZ FILTER DISPLAY
ILLUSTRATION 3-7



12301H

N = 1000 L = 550 53240252.BAT/2 400 KHZ LOW PASS FILTER

BACC FAST RECEIVER 400-KHZ FILTER DISPLAY
ILLUSTRATION 3-8



N = 1000 L = 550 53280252.BAT/9 500 KHZ LOW PASS FILTER

BACC FAST RECEIVER 500-KHZ FILTER DISPLAY
ILLUSTRATION 3-9

4- DATA DISPLAY - UCERD

From the Service Desktop, use the Report Manager to display BACC data files (these files have a ".BAT" file extension). The UCERD files look different than the CERD files.

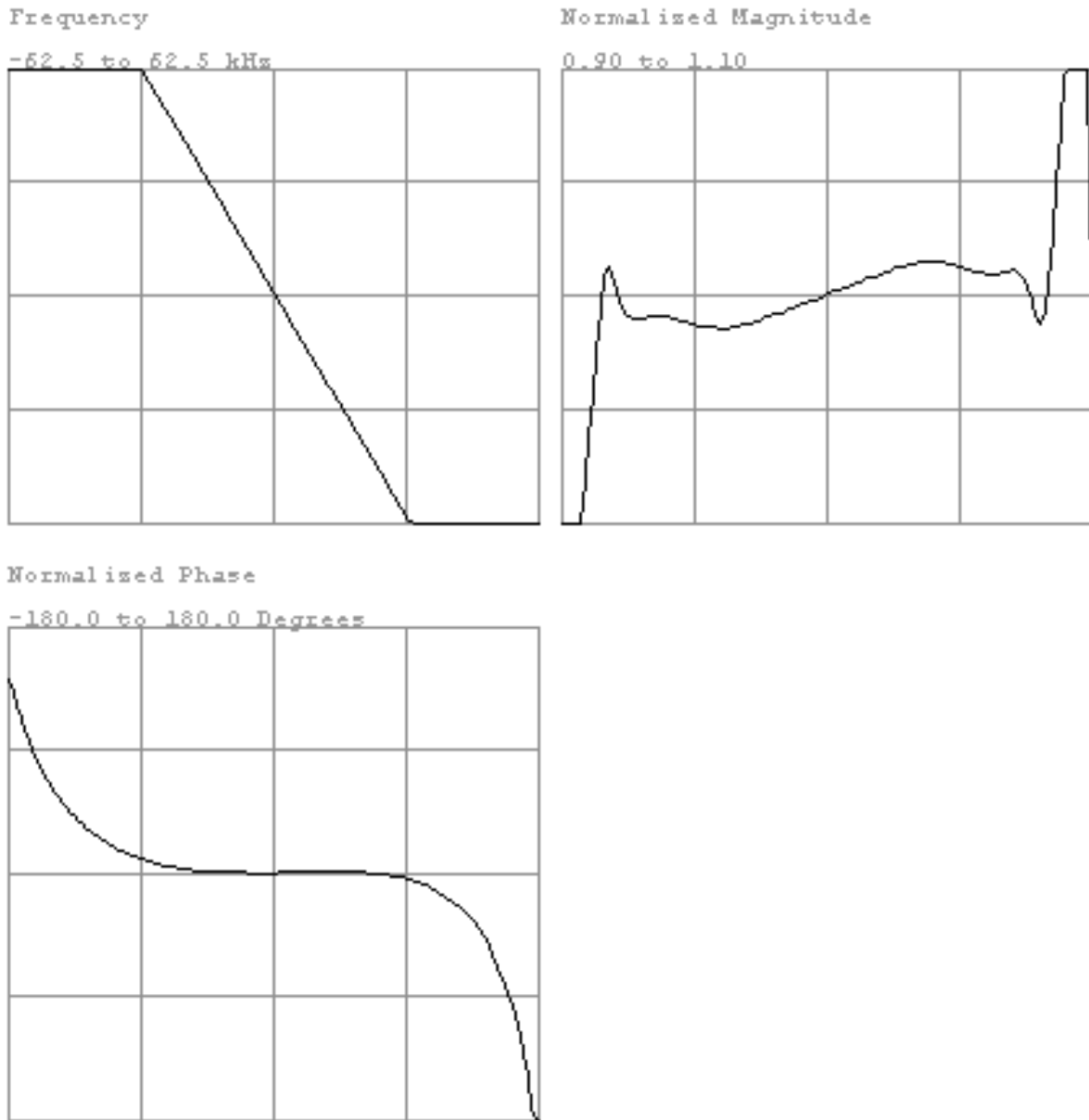
4-1 Header Display

The Header display is the same for the UCERD and CERD. See Section 3-1.

4-2 Standard Receiver and Filter Displays - UCERD

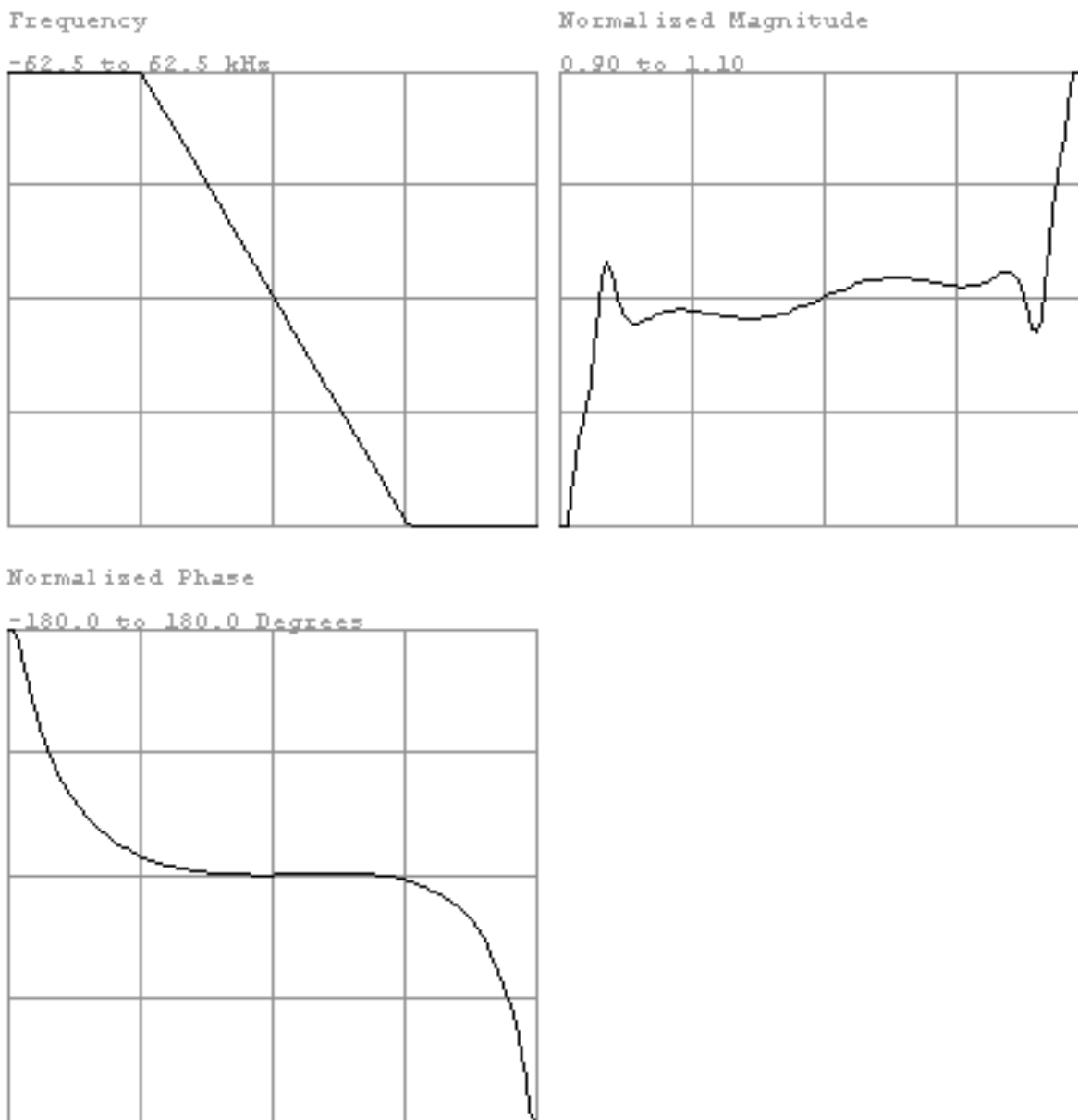
The following Illustrations are examples of plots for various receivers and filters:

19AD5415.BAT/6 BANDPASS FILTER INFO STANDARD RECEIVER 0



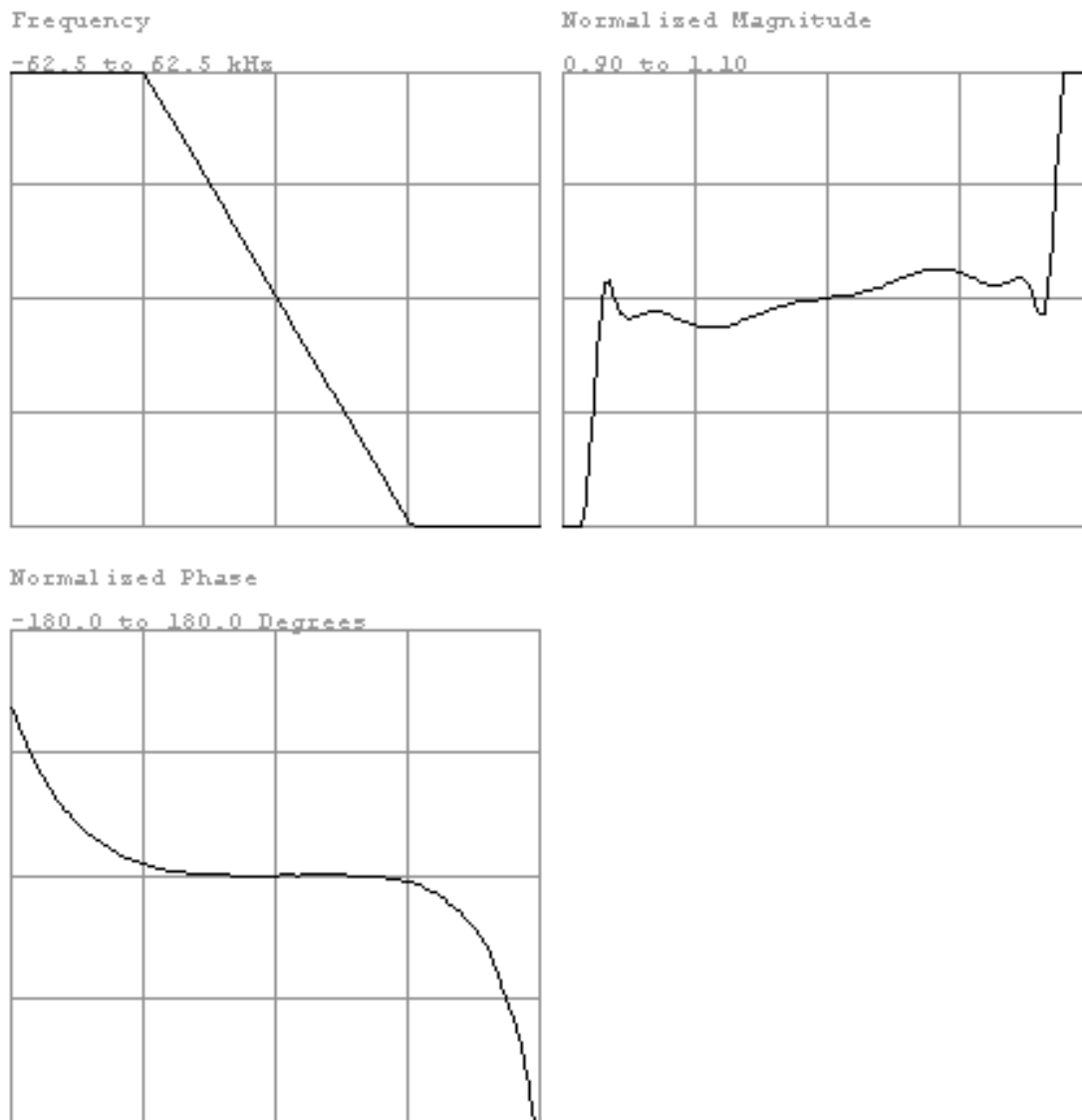
RECEIVER 0 - UCERD
ILLUSTRATION 4-1

79AD5415.BAT/7 BANDPASS FILTER INFO STANDARD RECEIVER 1



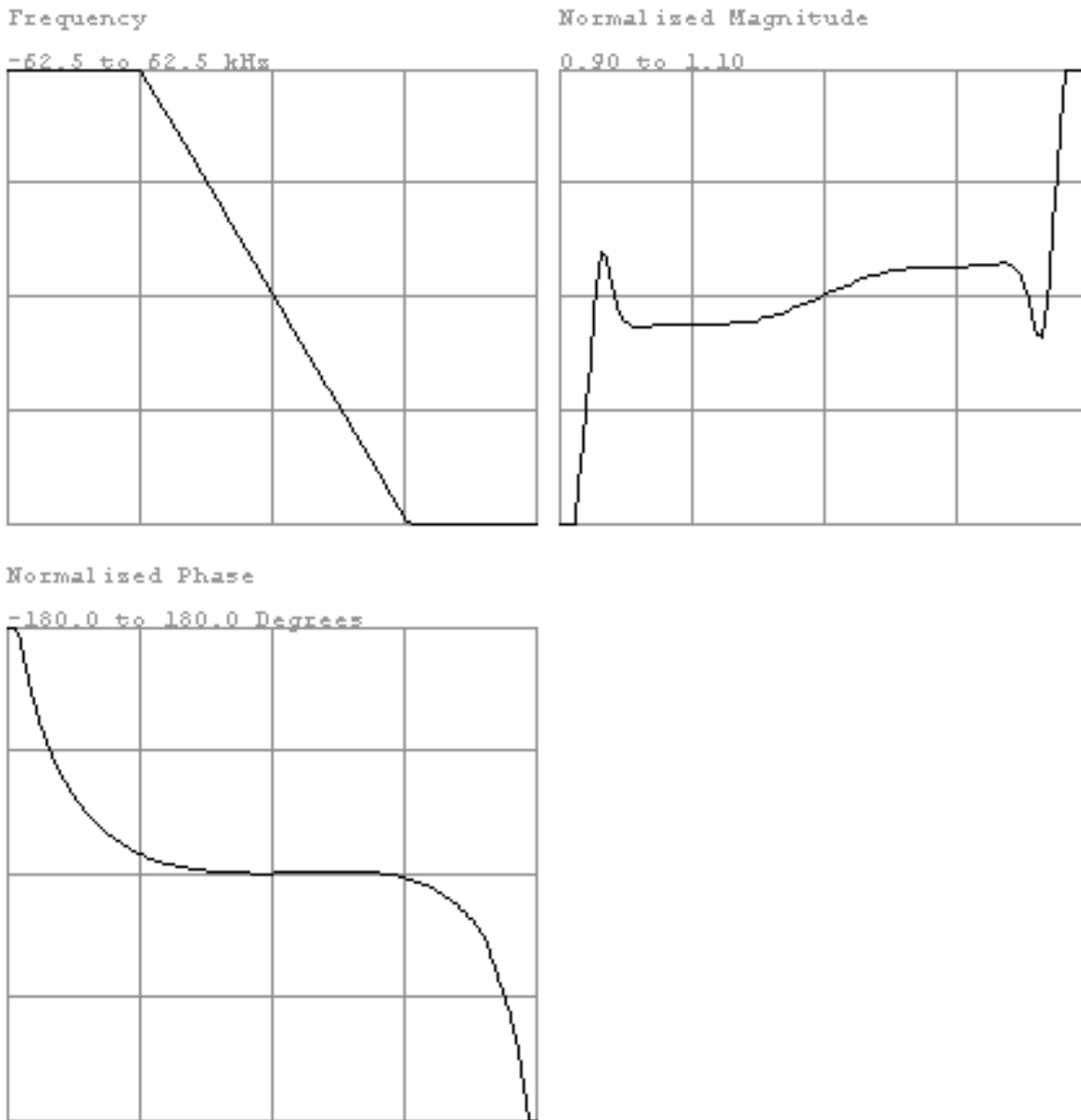
RECEIVER 1 - UCERD
ILLUSTRATION 4-2

79AD5415.BAT/8 BANDPASS FILTER INFO STANDARD RECEIVER 2



RECEIVER 2 - UCERD
ILLUSTRATION 4-3

79AD5415.BAT/9 BANDPASS FILTER INFO STANDARD RECEIVER 3

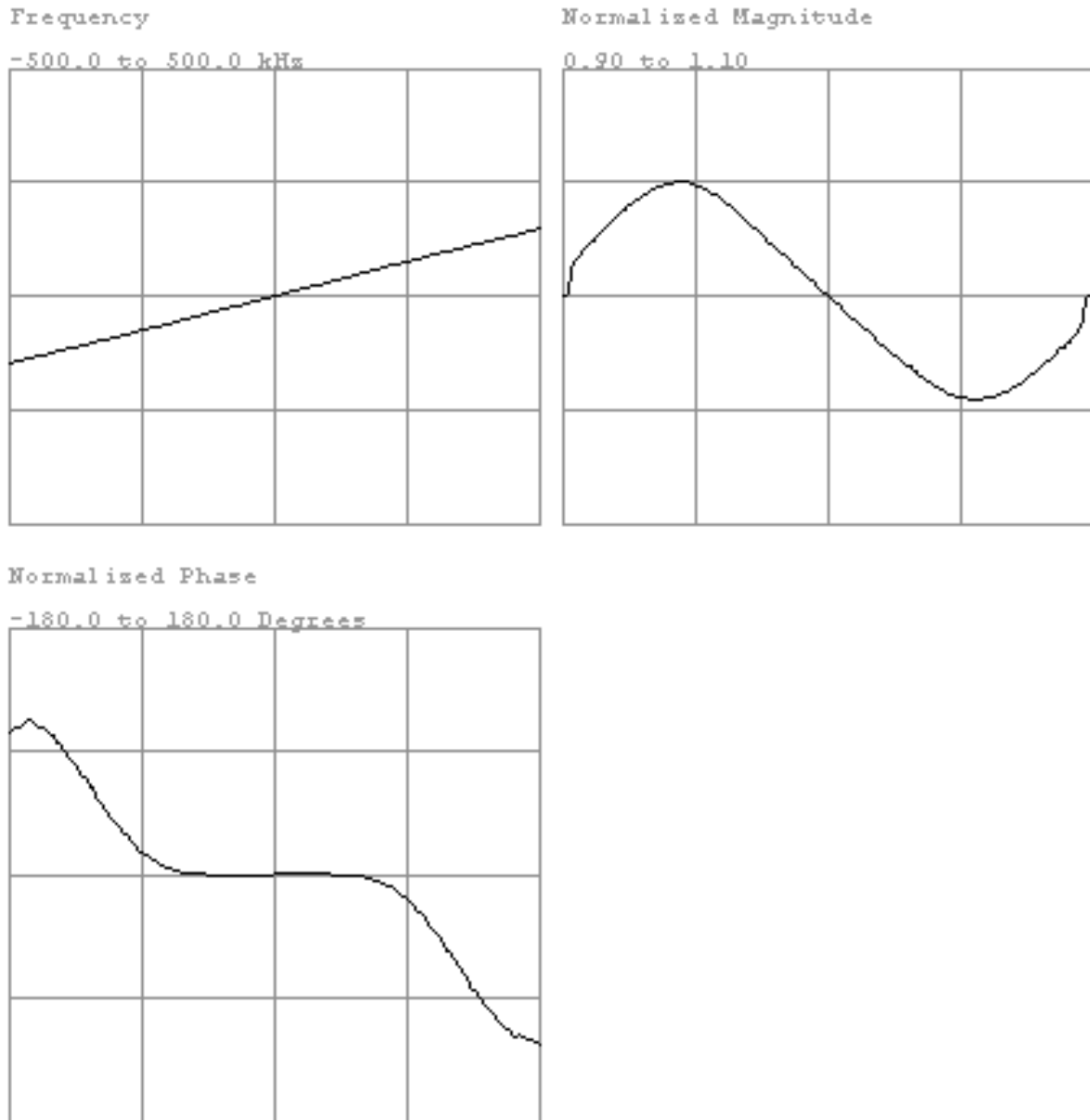


RECEIVER 3 - UCERD
ILLUSTRATION 4-4

4-3 Fast Receiver Filters and Displays - UCERD

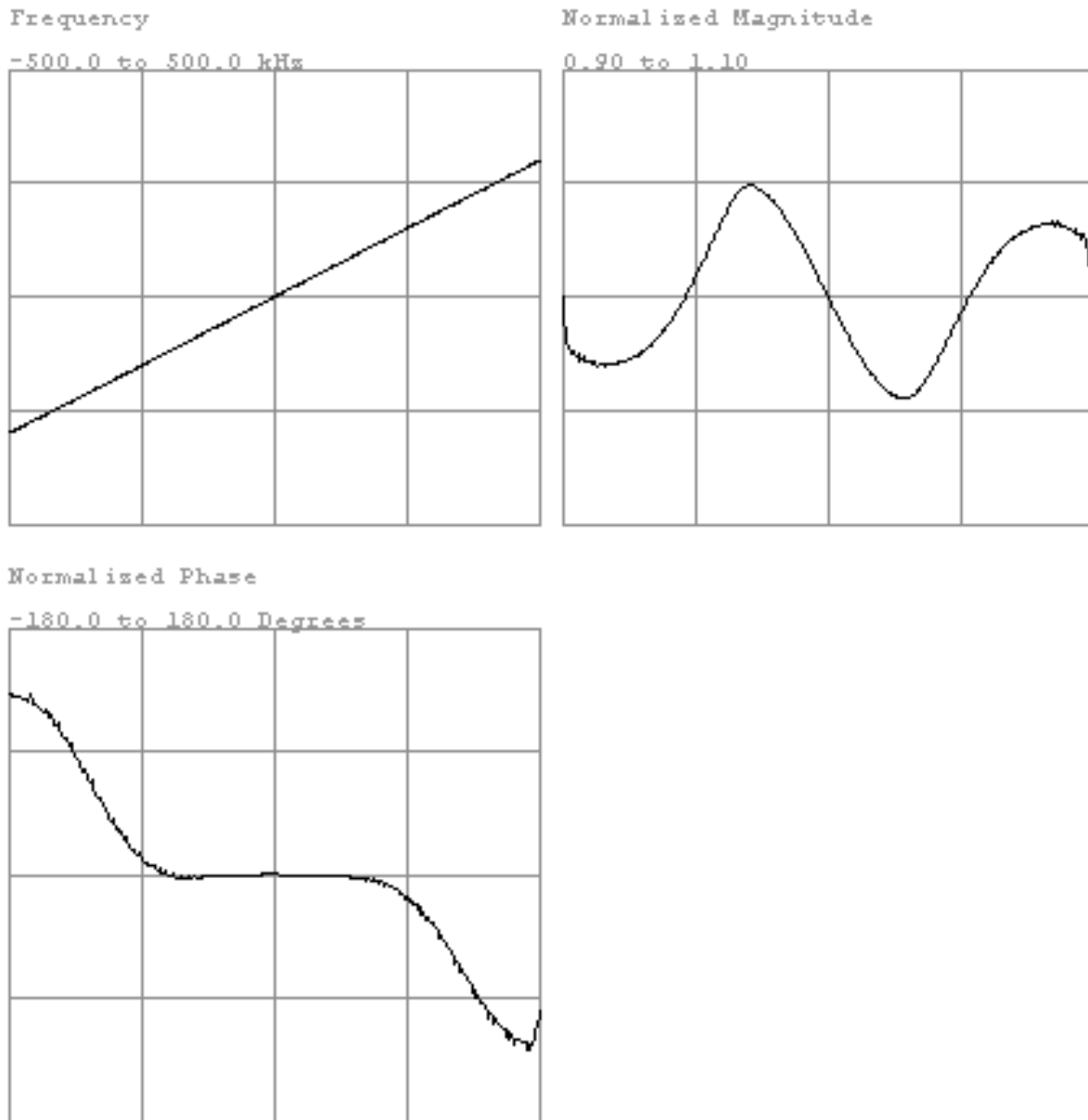
The following Illustrations are examples of plots for various receivers and filters:

79AD5605.B&T/1 100kHz LOW PASS FILTER



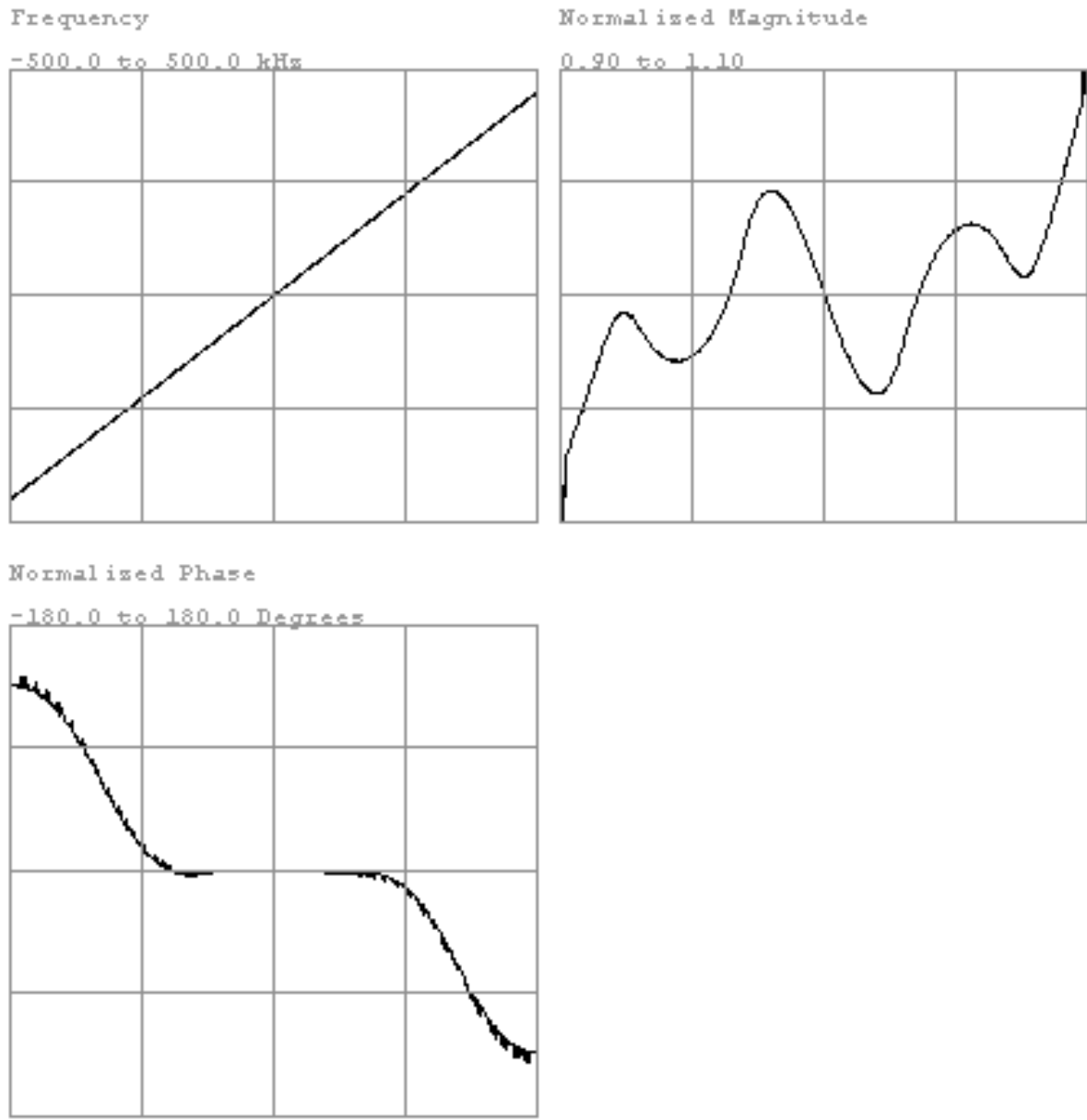
FAST RECEIVER 100 KHZ FILTER - UCERD
ILLUSTRATION 4-5

79AD5605.BAT/2 200kHz LOW PASS FILTER



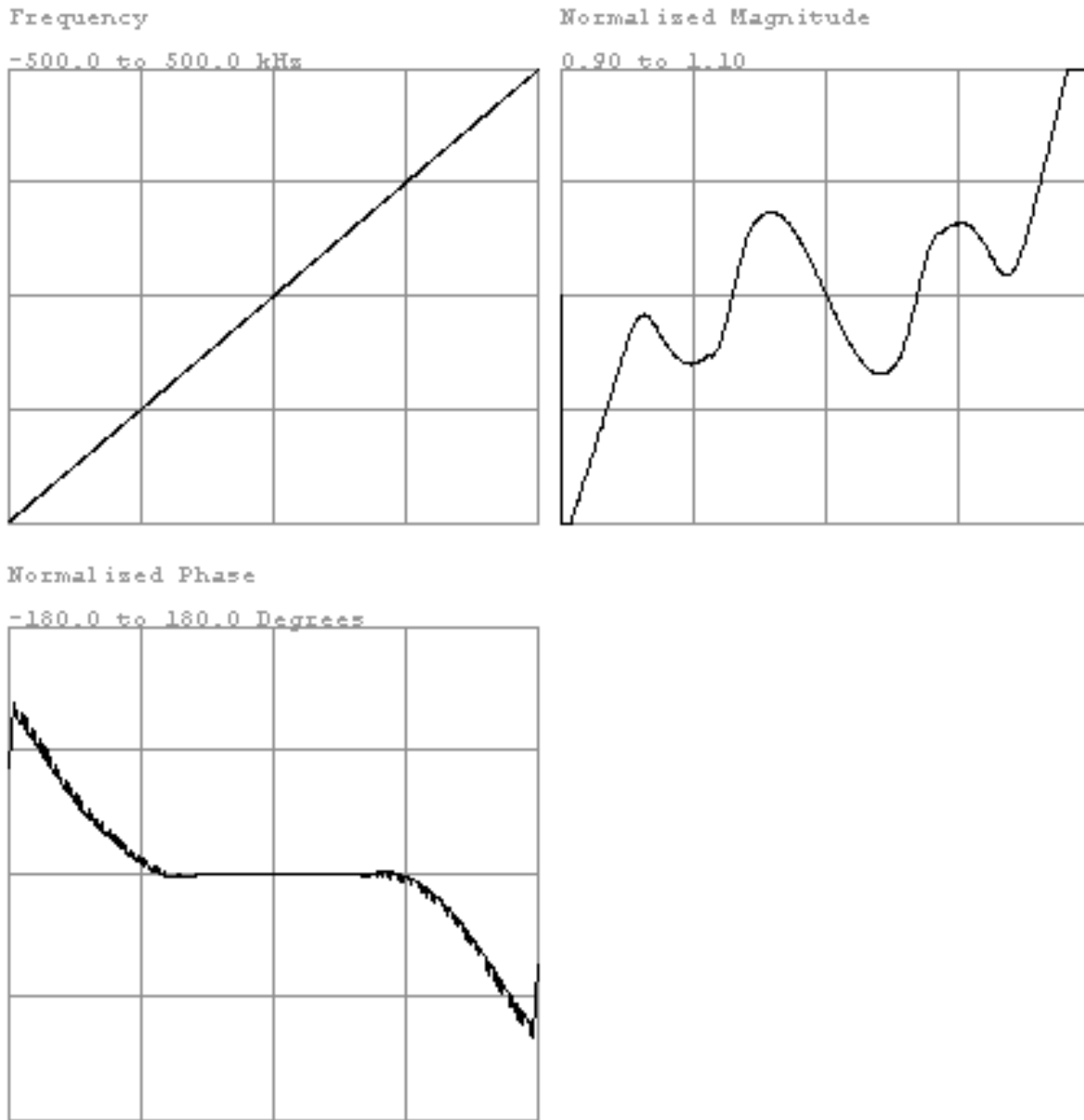
FAST RECEIVER 200 KHZ FILTER - UCERD
ILLUSTRATION 4-6

99AD5605.BAT/3 300kHz LOW PASS FILTER



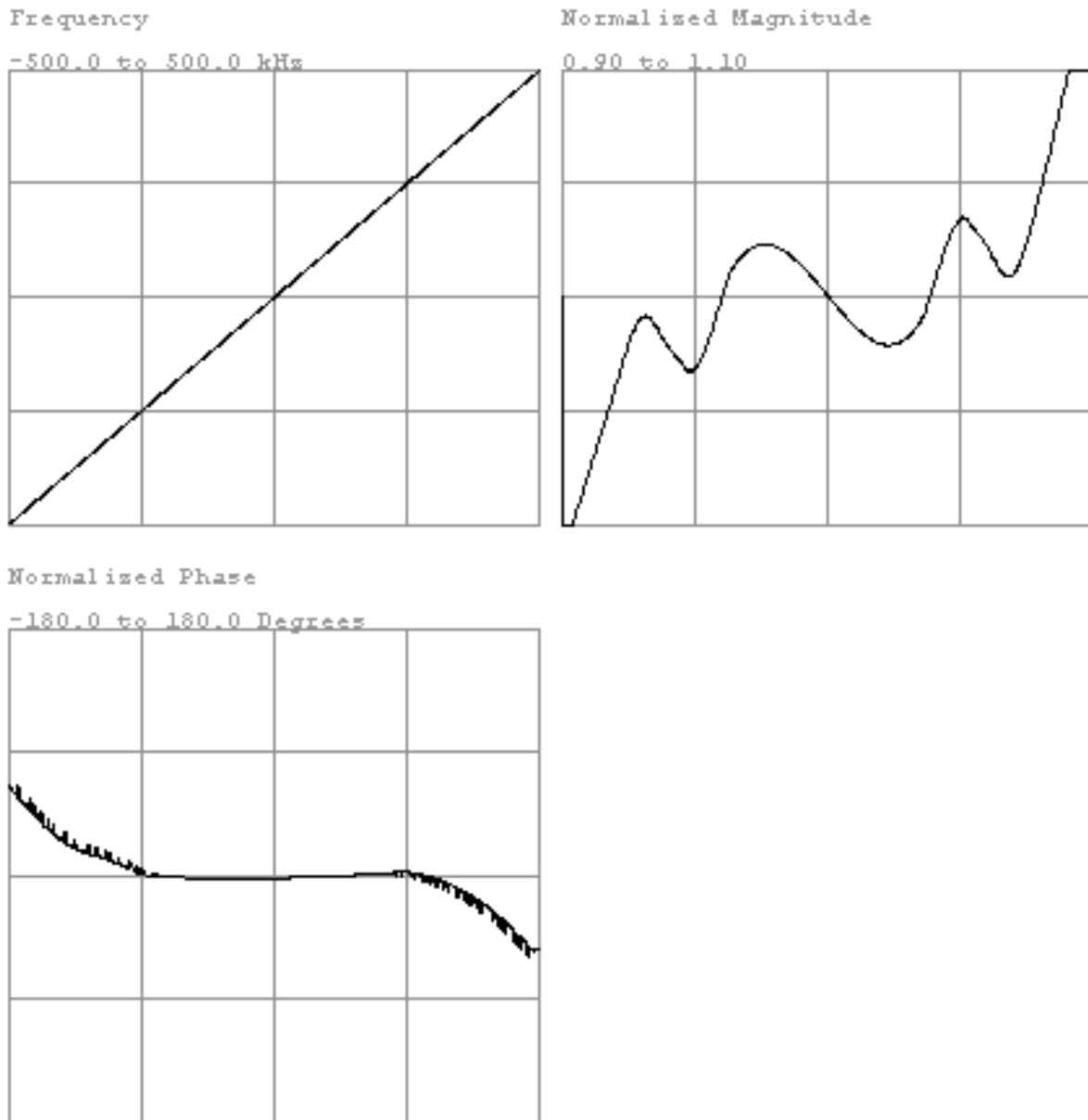
FAST RECEIVER 300 KHZ FILTER - UCERD
ILLUSTRATION 4-7

'9&D5605.BAT/4 400kHz LOW PASS FILTER



FAST RECEIVER 400 KHZ FILTER - UCERD
ILLUSTRATION 4-8

9AD5605.B&T/5 500kHz LOW PASS FILTER



FAST RECEIVER 500 KHZ FILTER - UCERD
ILLUSTRATION 4-9

REVISION HISTORY

REV	DATE	AUTHOR	PRIMARY REASONS FOR CHANGE
0	June 3, 1998	J. Saperstein	Initial Conversion from Toolbook to Word.
1	Nov 2, 1998	M. Keber	Removed obsolete 8.1 information; misc. style guide cleanup.
2	Oct 14, 1999	R. Kaufman	Added UCERD plots
3	Oct. 14, 2002	C. MacDonald	Added new service desktop interface and footers